

American Aviation

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The Independent Voice of American Aeronautics

AUGUST 1, 1945

What Is Our Policy?

THERE is nowhere to be found in the archives of the government a single piece of paper on which is printed in definitive terms a national aviation policy for the United States.

A lot of statements and speeches have been made to indicate that a semblance of national policy may exist somewhere. But the bald fact remains that there is no such over-all policy.

Fortnightly Review

You can quarrel, if you like, with the British White Paper on civil aviation, but whether it is good, bad or indifferent, the British have a stated policy recommendation which is the starting point for the formulation of a complete policy.

In the United States we do not even have a single agency charged with the task of recommending national policy or of coordinating the conflicting and varied views of government departments.

Not long ago a United States Army officer assigned to one of the Allied control councils in Europe came back to Washington to seek the advice and aid of the government on the solution of some aviation problems which faced the American members of the council. These problems were both military and civil.

The officer found the answers to the military aviation problems immediately. The United States Army is a single agency devoted to a single job. The Army knew what it wanted.

But when the officer tried to find the answers to the civil aviation problems he began a merry-go-round that merely got him dizzy after several weeks of going in and out of government offices—and he never found the answers. There was no one agency or no one group to consult. Our responsibility over civil aviation is scattered far and wide.

If the problem is economic, L. Welch Pogue, chairman of the Civil Aeronautics Board, is supposed to have the answers. If the problem is technical, either William A. M. Burden, Assistant Secretary of Commerce, or T. P. Wright, Civil Aeronautics Administrator, should know the answers. If the problem is diplomatic, then it is Will Clayton, Assistant Secretary of State, or Stokeley Morgan, chief of the aviation division. And these aren't all the officials involved by any means.

Both industry and government require a concentration of responsibility in some governmental instrumentality. The number of problems arising in civil aviation

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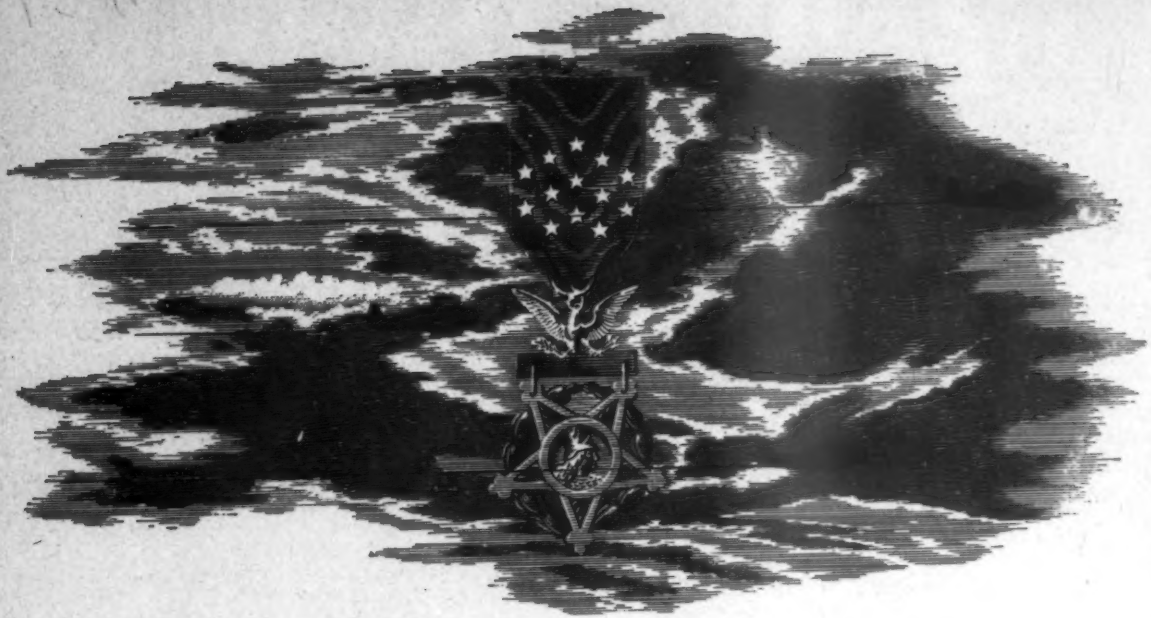


Named to New C&S Position

H. R. Bolander, Jr., has been named to the newly created position of vice president-administrative with Chicago & Southern Air Lines. He will continue to serve as general counsel until the appointment of a new vice president-general counsel, which is expected to take place in the fall.

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Above All

"Over and above the call of duty"...begins the citation of a coveted but never calculated award, for with that simple acceptance of the moment's need, so aptly phrased in the inimitable slang of one immortal Ace, many a pilot "has seen his duty and done it." ☆ ☆

So, too, must the plane measure up in performance and ruggedness to necessity's exacting demands, and we are proud to stress that American planes of all makes and types have delivered a magnificent performance to the honor and glory of the Air Corps.

It is, however, our gratifying privilege to point to records set by the Thunderbolt on all fighting fronts which not alone demonstrate its versatility, but "over and above the call of duty" stress its well merited reputation for "bringing them back alive."



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American Aviation

Volume 9, Number 5

The Independent Voice of American Aeronautics

August 1, 1945



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American Aviation Daily: The only daily news service for the aviation industry. Published daily except Sundays and holidays since 1937. Dispatched via airmail or surface mail for overnight delivery in the United States. Subscriptions: \$15 one month, \$170 one year. Airmail delivery to points outside the United States at additional cost to cover postage. Service Bureau available to all subscribers. CLIFFORD GUEST, Managing Editor.

International Aviation: A weekly newsletter of aviation trends and news in foreign countries. Published on Friday of each week and dispatched via first-class surface mail. Editorial representatives in foreign capitals. Subscriptions: \$100 one year (12 issues). Airmail delivery available at additional cost to cover postage. Service Bureau available to all subscribers. ALBERT G. SWEETSER, Managing Editor.

American Aviation Directory: Published twice a year, Spring and Fall. Complete reference data on administrative and operating personnel of airlines, aircraft and engine manufacturers, accessory and equipment manufacturers, organizations, schools, U. S. and foreign aviation groups and departments, etc. Completely cross-indexed by companies, activities, products and individuals. Single copy \$5.00; annual subscription (two successive editions) \$7.50. Spring-Summer 1945 issue now available. HELEN L. WALSH, Managing Editor.

American Aviation Traffic Guide: Monthly publication of airline schedules, rates and regulations for passenger and cargo transportation by commercial air transport. Supplements furnished subscribers covering changes occurring between issues. Subscriptions U. S. and Latin America \$5.00 one year (12 issues and supplements); Canada \$5.50. All other countries \$6.50. Published and revised from editorial offices at 139 North Clark Street, Chicago 2, Illinois. (Telephone: State 2154). H. D. WHITNEY, Managing Editor.

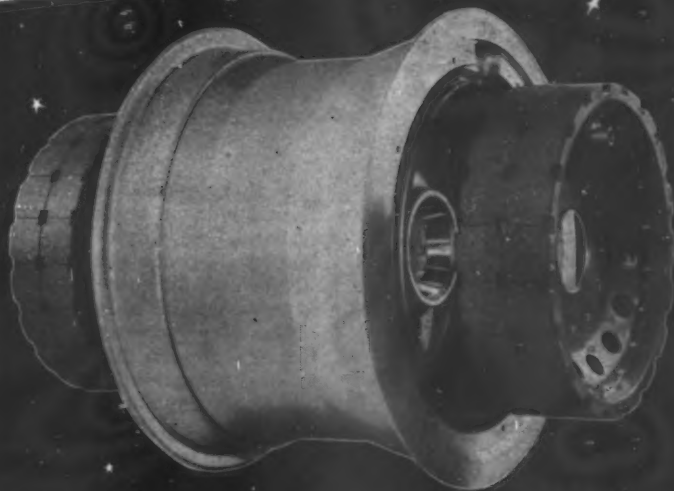
American Aviation Reports: Current financial and traffic statistics on all domestic airlines as reported to the Civil Aeronautics Board. Includes monthly and semi-annual summaries. Yearly subscription comprises over 500 separate reports. \$175 one year; \$100 six months; \$20 one month. Special statistical and research work for subscribers at cost. HAZEL W. REBERGER, Research Editor.

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(Continued from page 1)

tion, domestically and internationally, are not only increasing in number but in complexity.

It is not a problem of giving all authority to one aviation agency, as much as it is a problem of resolving all of the aviation interests of various agencies into one coordinated policy. What is needed, then, is an advisory agency which can coordinate all viewpoints and recommend policy to the President and to the Congress.

It is true that there is an interdepartmental advisory committee in existence and with the aid of its secretary, Howard Westwood, it has accomplished a great deal since it was created a few months ago.

But the only approach to this committee is through one of the government departments which is represented on the committee. Hence it is really only a clearing house without sufficient power and authority to handle the over-all national policy job that needs attention. The committee is organized on an informal, voluntary basis without the benefit of legislative creation. It cannot be expected to be more than a clearing house for interdepartmental problems.

It has been wisely suggested in some quarters that a national Civil Aviation Council should be created. On this Council would be high-ranking representatives of the War, Navy, State and Commerce departments, and the CAB. There should be a full time, top-flight executive as chairman of the Council, a man to be appointed by the President, and representing no single department of the government.

The chairman of the Council would report directly to the President, and the Council, through him, would probably have the obligation of making periodic reports to Congress. The Council should be created by the Congress in the usual legislative manner and it would be provided with a reasonable budget for the purpose of insuring that the work required was accomplished with dispatch. The cost would be nominal, for the Council members would already be employed by the government. A few clerks and assistants would be all that is required.

The Council would not take over any of the functions normally and reasonably assigned to other departments of the government. It would deal with policy only—not detailed regulation or operation. Its primary responsibility would be to advise the President on the aviation policies which our national welfare requires.

It would be helpful if the Council had an advisory board composed of representatives from aircraft manufacturing, airline operation, aviation labor, airport operators and the other industries and functions which go to make up American civil aviation. Such a board could give to the Council the best experience available within the industry.

President Truman has expressed his intention of stream-lining the government to weed out duplication. The proposed Civil Aviation Council would be a big step in the direction of coordinating government activities in aviation.

Some means must be found for setting up a single agency which can focus the attention of the government upon the policy problems of civil aviation and

can come up with a single, informed recommendation. There is no time to lose. In the meantime nothing that we are doing effectively in civil aviation affairs, either domestic or overseas, should be stopped, retarded or held for later reference to this prospective advisory agency.

Achieving A Milestone

ONE OF the important aspects of the CAB's North Atlantic decision is the pattern in which routes of the U. S. flag carriers were laid out in Europe and the Near East. What this pattern means to foreign-flag operators is particularly noteworthy.

It is understood that the Board was faced with two alternatives in promulgating its transatlantic route system. One would have blanketed the continent by the simple process of criss-crossing U. S. flag routes at strategic traffic centers, with considerations being given to cabotage, of course.

The other alternative, and the one selected by the Board, left open the channels of intra-continental traffic to local foreign-flag operators. A look at the route map which accompanied the Board decision (note page 19 of this issue) will show how this system works.

For illustration, assume that an American businessman on a round-trip wants to make successive stops at London, Paris and Madrid. Under the present route pattern, U. S. flag carriers would carry him on the U. S.-London and Madrid-U. S. portions of his journey. He would have to use foreign-flag lines for the London-Paris and Paris-Madrid segments of his travel.

The net result of this pattern is that it not only protects the foreign-flag lines' domestic route systems from American competition, but actually strengthens them by giving them access to U. S. traffic moving into the continent via American flag carriers.

The CAB has achieved a milestone in international relations.

A National Air Center

SINCE 1939 this publication has been interested in fostering a move to build in the city of Washington, the national capital, an aviation building which would house the offices of organizations and companies in the aviation business, and would house also an aviation club of international repute. There are signs that these early efforts to obtain such a building are bearing fruit. To have the Air Transport Association, the Aircraft Industries Association of America, the National Aeronautic Association, and individual company offices all in one building would bring the industry prestige as well as bring about an efficiency in relations. Most needed of all is a spacious and well-equipped club to which all in aviation would be welcome. As Washington becomes more and more a center of international aviation, an institutional building center is needed.

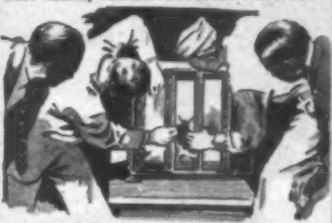
WAYNE W. PARRISH



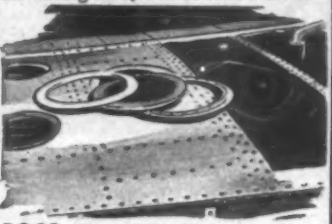
1936 First Mareng cell was aircraft fuel tank. If damaged, it could be pulled through opening, a new cell inserted like the bladder of a football. No need to remove wing, as with a metal fuel tank, thus simplifying maintenance.



1937 Early in Sino-Jap conflict, Martin 139 bomber of the Chinese Air Force returned to base with 19 bullet holes in Mareng cells. Sensing an answer to the problem of self-sealing fuel tanks, Martin redoubled research.



1940 Army Air Forces proclaimed self-sealing tanks a "must." Martin was first to respond. Martin engineers had been working on problem since 1919 tested 285 materials. Above, Martin self-sealing tank, riddled with bullets.



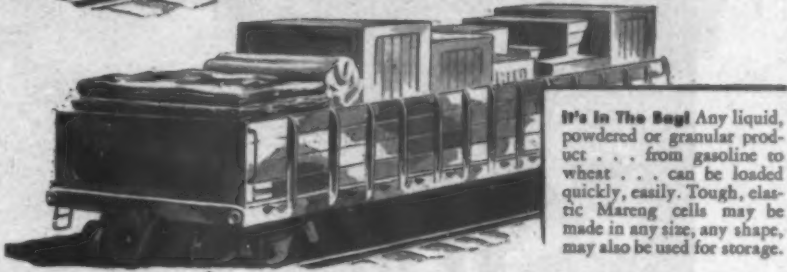
1942 "Jimmy" Doolittle makes first U. S. raid on Tokyo, his bombers given the needed range by special Mareng cells designed by Martin. Above, Mareng cell in B-25 of type used by Doolittle in his historic flight.



1945 Armored columns racing across Germany used big storage-type Mareng cells to set up fuel depots. Other storage cells, containing as much as 10,000 gallons, are quickly set up on captured Jap airbases to fuel our warplanes.



80 lb Pours, Mareng cells can carry it. Reaching destination, cells are emptied, folded into compact bundles, sent back to shipper. Space and weight saved permits other goods to travel in same car. Result: lower shipping costs.



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- 2 On reaching destination and emptied of their contents, cells are folded up and shipped to sender. One boxcar will hold enough empty cells to load six boxcars when cells

are filled. This cuts round-trip shipping costs, eliminates haulage of empty tank cars or tank trucks.

- 3 Cells cannot be bent or dented, will not rust or corrode, yield under impact instead of breaking, are lighter and easier to handle.
- 4 If punctured, Mareng cells may be quickly patched, thus avoiding soldering or other time-consuming repairs required to patch metal containers.

We Welcome Suggestions

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Bush removed from Double Valve to show plunger adjustment which makes installation easier.

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YOUR PERSONAL PLANE. By John Paul Andrews. 239 pp. Duell, Sloan & Pearce, Inc., New York. \$3.50.

Author Andrews has done a good job of rounding up current information and some future predictions which will be of value to the prospective private flier. Included in the data are cost estimates on operations, the popular models of private aircraft and predictions of aircraft to come. The final chapter comprises a directory of small airports. The book obviously is written on the optimistic side and should make a good piece of sales promotion for private flying to the general public.

WE FLEW WITHOUT GUNS. By Flight Capt. J. Gen. Genovese. 304 pp. The John C. Winston Co., Philadelphia, Pa. \$2.50.

Capt. Genovese has done just about every kind of flying in the book—from Randolph Field to "The Hump"—and he spins a good yarn about it. Old-timers will have a touch of nostalgia in reading his accounts of early barnstorming days, and young Army flegglings will appreciate his story of war operations. The chapter entitled "Nine Seconds to Live" provides a word-picture not soon forgotten. It's good reading for any member of the flying fraternity.

THE BOOK OF WESTLAND AIRCRAFT. Compiled by A. H. Lukins and edited by D. A. Russell. 104 pp. Harborough Publishing Co., Leicester, England.

This is a profusely illustrated history of the

'Tommy Rot At Home'

To the Editor:

We fellows in service look forward to the copy of *American Aviation* coming, as it gives us all the latest news of flying and personnel changes all over the world.

Your article on Page 45 of the June 15 issue (Airport Operator Condemns RFC Sales Policy on Surplus Planes) is good news to some of us old timers that are in service. I wonder if all the people back home believe the 'tommy rot' about the RFC selling airplanes too high so the operators can't make a big profit on rebuilding them. . . . I think the RFC is doing a good job of getting as much of the people's money out of these airplanes as they can.

. . . Let's keep our RFC skirts clean and make it one price for everyone, regardless of who they are, and if no one wants them, let's cut them up for scrap. (Veterans) . . . will need work after the war and building help give us fellows a job.

NAME WITHHELD BY REQUEST,
Sergeant, AC, Army Air Forces.

Westland firm, and includes specifications, photographs and three view drawings of all Westland aircraft from the N.16 and N.17 sesplanes to the present Whirlwind. Also included are scale plans and specifications on Westland-built aircraft. Similar volumes are now being prepared on other British aircraft manufacturers, and the complete set should form a valuable reference collection on British-built aircraft.

Traffic Elusive Thing

To the Editor:

In the spring of 1940 I joined Pan American Airways as a traffic representative. Determined to find out what this thing "traffic" was all about, I hunted through both public and institutional libraries . . . (but) there just didn't seem to be books written upon . . . (international) type of traffic management. It is with this in mind that I have placed my subscription for *American Aviation*. Also, in the past I have found your magazine to be an excellent medium in keeping in touch with the various personnel changes in the many airlines.

JAMES S. BOYERS,
Berkeley, Calif.

More Than Two or Three

To the Editor:

I have been reading your magazine for the past several months and I have but one suggestion to offer. How about remembering that there are 17 domestic airlines, and we would like a little news on all of them—instead of what two or three are doing. Thanks.

M. C. NICHALSON,
Eastern Air Lines,
Atlanta, Ga.

The Gull Mystery

To the Editor:

Please tell me, was this inserted as a "guess what's wrong" puzzle. How many readers wrote you to learn how a seagull outwits headwinds? Or do the winds vary 180 degrees at 100-foot levels over the Atlantic? Tell us Pacific rubes!

MAJ. A. L. WOLF,
West Coast Wing,
Pacific Division, ATC,
San Francisco.

Reader Wolf refers to an article which told of the experiences of Mr. and Mrs. Marshall (Mac) Bannell in a flight between New York and Washington in a Grumman Widgeon (*American Aviation*, Jan. 15). Unfortunately, Mac Bannell is now in China and unavailable to defend his story.—Ed.

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(Many of these booklets may be obtained from American Aviation Book and Periodical Dept., American Bldg., Washington 4, D. C.)

Battelle Memorial Institute, Columbus 1, O., has issued a 72-page catalogue of the publications and patents which have resulted from fifteen years of fundamental and applied Battelle research.

B. F. Goodrich Co., Akron, O., has published two new booklets—one a 24-page illustrated catalogue and buyer's guide of its aeronautical products which includes engineering data, and the other a 4-page folder on its pressure sealing zipper.

A recent issue of *Impact*, confidential monthly Army publication, which summarizes the achievements of tactical air power in Europe, has been declassified and a few hundred copies have been made available for distribution through the Air Power League, Empire State Bldg., New York 1, N. Y.

Savings to aircraft manufacturers of as much as 50% on freight shipment costs are expected through the use of the second

edition of the Blue Book of Airplane Parts issued by the Aircraft Industries Association. The "Blue Book", compiled by the Association's Traffic Service, is a comprehensive listing of aircraft parts and the recommended freight classification under which they are shipped.

The War Manpower Commission announces publication of a new Directory of Labor Market Areas, which becomes available to the public for the first time through the Superintendent of Public Documents, Washington 25, D. C., for 25 cents a copy.

A pamphlet giving all information pertaining to applicants for mechanics licenses has been prepared for general distribution by the Civil Aeronautics Administration. Because of the steadily increasing inquiries from aviation mechanics in the armed forces who wish to continue the same type of work when they return to civilian life, the CAA has condensed the information and made it available to mechanics in service and civilians.

Wings of Yesterday

Twenty-five Years Ago

Capitalists and bankers were among the fourteen passengers in an Aeromarine flying cruiser on a flight from New York to Southampton, Long Island. The 110 miles were covered in 72 minutes. (July 30, 1920).

Omer Locklear, well known aerial acrobat, was killed at Los Angeles, Calif. in a night flight. (Aug. 2, 1920).

The British Air Ministry Competition was held at Martlesham Heath, England. (Aug. 3, 1920).

Daily air mail service was organized, between the terminal points London and Amsterdam. (Aug. 5, 1920).

Two German Junker monoplanes, which left New York on July 29th, arrived in San Francisco. (Aug. 3, 1920).

A Gallaudet "Liberty Tourist" biplane flew to the Franklin D. Roosevelt notification ceremonies at Hyde Park, N. Y., delivering 1000 copies of the New York Evening Post special edition. The newspapers, containing a full account of the ceremonies, arrived a few minutes after the speeches were made. (Aug. 7, 1920).

Fifteen Years Ago

An R-100 flew from Cardington, England, to Montreal, Canada, completing the flight in 78 hours, 49 minutes. (July 28-Aug. 1, 1930).

Florence Barnes, flying a Wright motored Travel Air, established a speed record for women of 196.19 m.p.h., at Los Angeles. (Aug. 5, 1930).

Capt. Frank M. Hawks flew from New York to Los Angeles in 14 hours, 50 minutes, 43 seconds elapsed time, setting a new record for the east-west flight. (Travel Air Mystery S. Wright Whirlwind motored). (Aug. 6, 1930).



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Trend of

(As compiled and edited by Clifford Guest,

Reconversion Centers Doing Big Job: The important job being done by aircraft reconversion centers in getting transport planes ready for service on both domestic and foreign airlines is well illustrated in a summary prepared by Douglas Aircraft Co.

Recently criticism of one of the reconversion centers by an airline stirred up something of a storm. The airline said the center had promised conversion of a DC-3 in six weeks but wasn't able to deliver it for four months—and that the \$3.30 per labor hour cost was prohibitive. While this particular case justified complaint, other reconversion centers have been doing a much better job.

In fact, some of the conversion centers make no bones about it that they have a legitimate complaint against some of their airline customers. Frequently, they say, the airlines fail to send along the proper equipment for installation when the ship comes in, and have even changed specifications a number of times during conversion. They also say that airlines doing their own conversion sometimes claim excellent time records, but fail to count in a lot of work which they charge to "over-haul" instead.

While there are thus cross-complaints, on the whole the reconversion program is an important and well-handled part of the industry's transition period.

Starting the Atlantic Routes: Some airline men expect to see the Air Transport Command rearrange its routes to conform with the North Atlantic routes certificated to the three U. S. airlines by CAB. No one will hazard a guess at this time as to just when the three lines will be able to start operating on a commercial basis. However, the State Department expects to have the necessary agreements with all countries involved in the initial service settled well before the airlines have their equipment ready.

Defining 'Non-Scheduled' Operators: Twice in recent months CAB has opened economic investigations of carriers operating interstate air services in possible violation of the Civil Aeronautics Act. The first investigation, that of Page Airways' operations, came after the crash of a Page plane at the Washington National Airport. The second, instituted last week, was based on protests against the operations of Trans-Marine Airlines, Inc., filed by Northeast Airlines. In both instances the primary question at issue is whether or not each carrier is operating "scheduled" or "non-scheduled" service, CAB's decisions in both investigations should result in final legal definition of these hitherto broadly interpreted terms.

Industry Wins Its OPA Battle: The Office of Price Administration order (predicted here in the July 15 issue) which exempts aircraft and most aircraft parts from price control is a distinct victory for the Aircraft Industries Association (formerly Aeronautical Chamber. Jack Boyle of the AIA staff and committees working with him did an effective job of presenting the industry's case.

International Route Appeals: Some Washington attorneys, in the light of recent petitions filed by PCA and Northeast Airlines asking CAB to reconsider its North Atlantic decision, are discussing the legal question of whether an international decision can be reopened after it has been approved by the President. Under the Civil Aeronautics Act, the President is final arbiter in international route cases, basing his decision on considerations of national policy as well as on CAB's recommendations. His approval, these attorneys say, is absolutely final, and any attempt to reopen the proceeding could only result in embarrassment to the President.

No attempts have yet been made to appeal the CAB North Atlantic decision to a Federal court of review, but pre-

The News

Managing Editor, American Aviation Daily)

liminary opinion seems to agree that under present law such an appeal is virtually impossible. Lawyers believe that no Federal court would be willing to review a decision which reflected the exercise of Presidential discretion to such an extent as an international route case.

Ickes Bars Airplanes from Parks: Highly displeasing to the aviation industry is the recalcitrant stand taken by Secretary of the Interior Harold L. Ickes among whose numerous jobs is that of top policy making for the National Parks Service. Ickes steadfastly refuses to permit flying fields within the confines of national parks. Airplanes, he says, would frighten the animals, reduce fur output, worry expectant mother bears, etc.

On the other hand, the U. S. Forest Service—which is under the Department of Agriculture—welcomes landing fields in its areas, and a number have already been built.

Aircraft Cutbacks and Jet Production: Figures supplied by John H. Martin, chairman of WPB's Production Readjustment Committee, show that total aircraft production scheduled for 1945 is \$12,100,000,000. Actual production in March was \$1,200,000,000. The one-front war schedule of aircraft production for the rest of the year: July, \$1,000,000,000; August, September and October, \$900,000,000 each; November and December, \$800,000,000 each.

Martin said that production of jet planes "must meet a steeply-rising schedule" during the remainder of the year.

However, informed sources in the industry, as this issue went to press, were expecting a surprising Navy announcement regarding its jet plane plans.

The Pacific Routes: Aviation observers in Washington have been pondering the effect the recommendation of United Air Lines for an Hawaiian route may possibly have on the designation of other carriers for Pacific routes. Presumably, United will not fly beyond Hawaii.

However, hearings on routes through the remainder of the Pacific area have been held, although CAB Examiner Ross I. Newmann has not as yet issued a report. It is believed likely that his report, when it is issued, will reflect the recent recommendation of United for the California-Hawaii route.

In the Western end of the Pacific, the area embraced in Newmann's proceeding includes India, to which both Pan American and TWA have been certificated. His recommendations will probably include the extensions necessary to give Pan American an around-the-world route, and the Board's action in certificating TWA to Bombay has led some observers to believe that it too may go all the way around.

In view of the examiner's findings in the Hawaiian case, which concluded that the central Pacific route could support only two carriers, the examiner's recommendations in the Pacific case may well involve a northern circle route across the Pacific.

Capsule Observations: Most Washington observers are convinced that Gen. H. H. Arnold's resignation as commander of the AAF is definitely to be expected before the end of the year. . . . Reports persist that the Senate will soon start an investigation of the Air Technical Service Command, which has now pretty well completed its reorganization of personnel. . . . It isn't safe to rule out the steamship companies completely as possible recipients of air routes, particularly in the Caribbean and South Atlantic. . . . Significant passage in the examiner's report in the Hawaiian case: "There can be no denial of Matson's (Matson Navigation Co.) contention that the Act does not prohibit steamship companies from engaging in air transportation. However, the problem with which the Board is here confronted is the selection of the carrier which will best serve the public interest."



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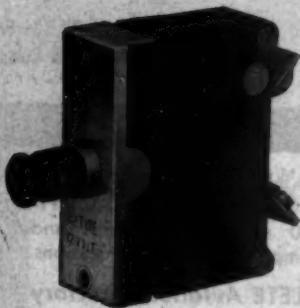
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This Issue

Army May Pool Aircraft For Deployment

ODT Director Discloses Plan in Testimony Before
Mead Committee; Blames Army for Transport Mess

COL. J. M. JOHNSON, director of the Office of Defense Transportation, testified before the Senate Mead Committee last fortnight that the ODT and the Army were studying a plan whereby transport aircraft would be taken away from the airlines and assigned to a pool for use in deployment of troops to the Pacific area.

Johnson's statement came as a surprise, since it was known that the War Department has under consideration a proposal to allocate from 50 to 80 DC-3 type (C-117s) to the airlines from current military production.

Testimony at the Mead Committee's hearings, called to look into the transportation situation generally, also brought out that the Army has more than 1000 excess DC-3 type aircraft in the European area, which a witness said the military had not seen fit to declare surplus.

Rudolph Halley, committee counsel who went to Europe with the Mead Committee to study the surplus problem, said hearings in Europe had developed that 1000 or more planes were listed as excess in the Army records, but that no steps had been taken by the Army to make them available for use in solving the critical transportation problem in this country.

Halley said that many of the planes were C-47s, but that he could see no reason why they could not be used for troop deployment in the U. S., even though they might not be able to carry the conventional 21 passengers which can be accommodated on the regular DC-3 airliner.

Competent observers said that the 1000 Army transports could be flown back from Europe via the northern route with 15 men aboard, since the longest hop on that route is between Prestwick, Scotland and Meeks Field, Greenland.

The next longest hops are between Meeks Field and Julianehaak, Greenland, and between Julianehaak and Goose Bay, Labrador—each 750 miles. From here the planes would travel to Presque Isle, Me., a hop of not much over 400 miles.

These observers said that the C-47s could make the trip in three days, allowing ample rest for the crew, and that by utilizing the aircraft in carrying troops on the return trip, an entire division could be returned to the U. S.

Spokesmen for the ODT said that the planes could be well utilized in shuttle service between such congested areas as between Chicago-Kansas City and Chicago-Omaha; Omaha-Denver, and Denver-Los Angeles. Better utilization would be provided by using the planes on shuttle schedules.

Col. Johnson told the committee, however, that he had no authority to use these planes in helping to solve the transportation crises as long as the Army continued to exercise control over them.

Asserting that he did have authority to take over any train or plane used in civilian transportation and assign them for strict military travel, such as troop deployment, Col. Johnson stated that the plan being studied envisaged requisitioning from the airlines, on a pro rata basis, a number of aircraft which would be assigned to a military pool, much in the same manner as was done recently with reference to Pullman cars. Under this arrangement, the Army too would be asked to assign a number of aircraft to the pool, he stated.

Some airline observers at the hearing pointed out that if the 1,000 C-47s were put into use in this country and operated on the April 1 utilization scale of the domestic airlines—1,793 miles per plane per day—15,000 troops could be carried a distance from New York to Albuquerque which is 1800 statute miles. The domestic airline utilization report on airline operations as of April 1, issued by CAB, showed that the civilian aircraft were operating the average of 1,793 miles in 11.36 hours.

On the basis of unofficial figures obtained from the Association of American Railroads, it would take 17 trains of 15 coaches each, with 60 soldiers to a coach, to move approximately the same number of men from New York to Albuquerque, not in 11 hours, but 48 hours.

Col. Johnson placed the responsibility for the current transportation crises squarely on the Army.

"I have little more knowledge of the plans for redeployment of our troops from the European to the Pacific theater of war than is available to the general public, through announcements of the press," he testified.

Johnson said that he had learned through a casual conversation with War Department officials that the Army would return to this country in June 200,000 instead of the 154,000 troops as originally planned. He pointedly blamed the Army for failure to keep ODT and other civilian agencies concerned with transportation informed as to stepped-up arrival schedules.

Johnson read from a report he had issued in February wherein he predicted that the present transportation muddle would occur unless the War Department took steps then to meet some of the equipment and personnel problems which seemed certain to develop.

Atlantic City Claims 'Airport'

This is probably tantamount to starting a minor revolt, but Atlantic City claims to have originated the word "airport."

Fay M. Thomas, manager of Detroit's Book-Cadillac Hotel, says that he has verified the claim through competent sources at Atlantic City.

It appears, Thomas said, that the word was originated by either Henry Woodhouse, president of the Aerial League of America, or William Dill, formerly of the Atlantic City Press, and was applied to Atlantic City's "airport."

Chairman James Mead (D., N.Y.) said lack of coordination between the War Department and ODT and other agencies was the basis for the present situation and he promised that his committee would take steps to remedy the situation. The committee recessed indefinitely July 24 subject to the call of the chairman.

McCarran Flag Bill Gets Senate Setback

A move by Sen. Pat McCarran (D., Nev.) to get his All American Flag line bill onto the floor of the Senate was stymied last fortnight when Sen. Josiah W. Bailey, chairman of the Senate Commerce committee, announced that he would not return to Washington from his home in North Carolina prior to the Congressional recess.

Bailey originally had planned to call a meeting of the committee during the week of July 23 to consider McCarran's request for an adverse report on the bill (S. 326) in order that the Nevada could then push the legislation onto the floor.

Bailey's failure to return to the capital from a personal business trip meant that McCarran's bill probably will not go on the Senate agenda before October. McCarran expressed determination to push for a show-down on the measure, despite adverse committee action.

Since eight out of 11 Democrats voted against the McCarran bill and its amendment and seven out of nine Republicans voted in favor of them, the poll in the committee was construed as being along party lines.

If this line of cleavage holds in the Senate—assuming that the legislation reaches the floor—it would appear that the bill would have little chance of passage, since there are 55 Democrats and 40 Republicans in the upper house.

Army May Allocate C-117s To Airlines Under Waiver

CAB Sets Aside Regulations On Dump Valves for Operators

RELIEF from the tight aircraft situation on the domestic airlines seemed virtually assured last fortnight as the Army was reported on excellent authority to be preparing to allocate from 50 to 80 C-117s (DC-3 type) for use on the nation's domestic route system to help ease the transportation bottleneck caused by redeployment from the European to the Pacific theater of war.

Although no official statement could be obtained on the exact number of planes involved or on the precise methods whereby the allocation will be effected, a series of obviously interconnected recent events convinced observers that detailed announcement of a program through which the carriers are expected to receive a number of C-117s from the production line of Douglas Aircraft Co.'s Oklahoma City plant could be expected in the immediate future.

(The disclosure of J. M. Johnson, ODT director, that the Army has under advisement a plan for pooling aircraft to alleviate the transportation situation served to add a confusing note to what otherwise appeared to be a brightening prospect for additional equipment for the airlines.

(The picture was further muddled by the fact that competent observers insisted that the plan for allocation of additional transports to the domestic carriers was meeting with approval in the office of the Secretary of War.)

The Army disclosed early last month that it was considering assignment to the airlines of a portion of the 131 C-117s being manufactured under its contract with Douglas, providing arrangements could be made to assure their use by the carriers at the full provisional take-off weight of 25,200 lbs. gross.

The offer was presumably made by the Army in response to letters reportedly written by Civil Aeronautics Board Chairman L. Welch Pogue. War Production Board Chairman J. A. Krug, and Col. Monroe Johnson, Director of the Office of Defense Transportation. The three officials are said to have asked the Army to consider the possibility of allocating planes for airline use if current production schedules of those types were in excess of its actual requirements.

It appears that the War Department immediately took steps to comply with this request but decided unofficially that any planes released to the airlines should be operated at full provisional weights. A problem arose in connection with a Civil Air Regulation which required that DC-3s not fitted with dump valves—the C-117s produced for the Army are not equipped with the fuel jettisoning devices—could operate only at the standard take-off weight limit of 24,400 pounds. The provisional weight permits a DC-3 to take off at a gross of 25,200 lbs. provided it can use up in flight 800 lbs. of gasoline before its first landing. In emergencies, the valves make possible

dumping unused portion of the fuel load to bring the plane's gross weight within landing weight requirements.

An informal meeting of members of the Civil Aeronautics Board, and representatives of the Air Transport Association, the Aircraft Industries Association of America, the Air Line Pilots Association, and CAA and CAB Safety Sections, was held to explore all aspects of the problem.

It was explained that the War Dept. was unwilling to interrupt current production schedules at the Oklahoma City plant to equip the planes with dump valves, and was likewise unwilling to turn the planes over to airline use unless it could be assured that that would be operated at the full provisional take off weight. The Army operates these planes at the provisional weight and often above, without dump-valve equipment. The difference between the provisional and standard take-off weights would roughly equal four passengers with their baggage. As the proposed allocation to the airlines was designed to ease transportation bottleneck, the Army was unwilling to see the planes go into service with a portion of their available cabin load unused.

Douglas representatives told the group that the dump valve equipment could be produced for the planes only after considerable delay, because of lack of tools and materials. Actual installations, once the equipment is available, is understood to be a matter of only some 50 man hours.

As an additional condition of its offer, the Army is also understood to have demanded that any planes so allocated be placed into actual airline use within two weeks after delivery.

CAB moved rapidly. A special Civil Air Regulation waiving the dump valve requirement was made effective July 12. The regulation stated that "Notwithstanding the provisions of Parts 64 and 61 of the Civil Air Regulations, Douglas DC-3 type airplanes not equipped with means for dumping fuel may, until February 1, 1946, be used in scheduled air transportation at provisional weights currently authorized for such airplanes equipped with means for dumping fuel."

This paved the way for airline use of the C-117s as manufactured, at weights satisfactory to the Army. The seven month period covered by the waiver will permit Douglas to produce sufficient dump valves to equip the planes, and will give the carriers to whom the aircraft are finally allocated an opportunity to install it when the planes are in the shops for routine overhauls.

David L. Behncke, President of the Air Line Pilots Association, protested the waiver of the dump valve requirement in a letter to CAB Chairman Pogue. He pointed out that his Association had in the past opposed proposals to permit operation of the DC-3 at greater than standard take-off weights unless equipped with dump valves, and that their objections in this case followed earlier policy. The pilots, he said, regard the fuel jetti-

Aviation Calendar

Aug. 1—General observance of Air Force Day. Address by Gen. H. H. Arnold to be broadcast from dinner at Waldorf-Astoria Hotel, New York, sponsored by Wings Club and Air Power League.

Aug. 2-3—Flying Farmers meeting and Farm and Home Week, Oklahoma A. & M. College, Still, Okla.

Aug. 6-7—National Aircraft Standards Committee Executive Board meeting, Brown Palace Hotel, Denver, 9:30 a.m.

Aug. 6-7—Airworthiness Requirements Committee meeting, Brown Palace Hotel, Denver, 9:30 a.m.

Aug. 8-9—Airplane Technical Committee meeting, Brown Palace Hotel, Denver, 9:30 a.m.

Aug. 13—Opening of first meeting, Interim Council, Provisional International Civil Aviation Organization, Hotel Windsor, Montreal.

Aug. 16-17—Institute of Aeronautical Sciences, Los Angeles area meeting, Hollywood-Roosevelt Hotel.

Aug. 20-21—NAA Joint Airport Users Conference, Hotel Statler, Washington, D. C.

Sept. 2—Interhemisphere conference on frequency allocations and revisions, Rio de Janeiro.

Oct. 4-5—Institute of Aeronautical Sciences, Detroit area meeting.

Oct. 16—First annual meeting, International Air Transport Association, Montreal.

Oct. 26—Institute of Aeronautical Sciences, Washington, D. C. area meeting.

Oct. 31-Nov. 3—National Aviation Clinic, Oklahoma City. Pre-clinic conference Oct. 27.

Nov. 16—Institute of Aeronautical Sciences, Dayton, O., area meeting.

Dec. 17—Institute of Aeronautical Sciences, Washington, D. C., meeting.

sioning device as an indispensable safety factor.

However, although no further bars to airline use of the C-117 remained the Army had not announced its final decision as this issue of AMERICAN AVIATION went to press. War Department officials, in response to queries on the status of the plan, refused comment. Some sources believed that the delay was due to difficulties in making necessary changes in the Army's contract with Douglas, although representatives of the aircraft manufacturers stated that, to their knowledge no such changes were contemplated. Another factor causing delay may lie in the arrangements whereby the Navy is given first opportunity to acquire planes and other material found by the Army to be in excess of its requirements.

A majority of sources agreed, however, that the outcome showed every indication of being favorable, and that a final announcement of the Army's decision was imminent. Actual allocation of the planes to individual carriers will almost certainly be made by CAB, and it is a safe guess that at least a majority of the aircraft so allocated will go to transcontinental carriers, thereby relieving the transportation jam at its most critical points.

Meanwhile, Douglas' Oklahoma City plant continued rolling the C-117 off its production line, with some 9 to 12 of the contract for 131 planes already completed.

Transport Helicopter Built By Piasecki; Carries Twelve

Craft, Flying Since March, Developed as Navy Project

AIRLINE USE of the helicopter for feeder, taxi and commuter service moved from the future possibility to the immediate probability stage last week with the disclosure by F. N. Piasecki that the P-V Engineering Forum has designed and built a twin rotor machine capable of carrying 10 passengers in addition to a two man crew.

The new aircraft was specifically designed to fulfill Coast Guard and Navy air-sea rescue and transport service requirements—it is the first helicopter development project to be announced by the Navy Bureau of Aeronautics—and made its inaugural flight last March, just 13 months after the original contracts were signed. Since then it has been extensively tested on cross country and commuting as well as local flights, and has been used frequently to whisk visiting officers from the Philadelphia Navy Yard to the com-



F. N. Piasecki



PV-3 Shown Flying in High Speed Position

pany's Sharon Hill plant—a trip which takes at least a half hour by car—in five minutes.

Designated as the PV-3 by the manufacturer and as the XHRP-1 by the Navy, the new machine has tandem rotors—it is believed to be the first helicopter to employ such a design successfully—and is powered by a single Continental-Wright R-975 engine with a released rating of 450 hp at take-off. The engine is completely enclosed in the streamlined fuselage aft of the passenger cabin. The fuselage is 48 ft. long and 13 ft. high. Rotor diameters are restricted, but the PV-3 is said to be able to land in a 100-ft. diameter clearing on either land or water. Equipped with either an internal or an external hoist, it can further be used to perform rescues while hovering.

While actual performance figures are restricted, Piasecki says that flight tests have shown the PV-3 to have unusual stability and control characteristics and to be one of the fastest helicopters flying. It has "medium range" with a full load,

and the flight test program has further demonstrated that it has the "airline type of stamina."

The unusual tandem rotor configuration makes a large volume of cabin space available "for the first time in helicopter history" at the center of gravity of the machine. Other firsts claimed for the new craft are that it is the first helicopter specifically designed for air transport operations, and the first economically practical aircraft of this type. That direct operating costs will be low is suggested by the fact that total power on the prototype—a single 450 hp engine—is less than that normally used on a 12-place conventional aircraft, and even the projected commercial versions will have only one 600 hp Pratt & Whitney engine.

Pointing to the practical applications of the XHRP-1, Piasecki said that no expensive runways or aprons will be needed to provide landing facilities, and that it will be ideal for picking up wounded personnel from inaccessible areas on land and water. It will also be used by the armed services to save invaluable time in establishing military communications and transport service in devastated or remote areas and for many other specialized military operations. Other government agencies are likewise interested in the new craft, Piasecki added, and plan to use it for such specialized operations as forest fire fighting, crop dusting and mosquito control. Commercial and industrial possibilities include mining and communications as well as air transport; and foreign countries have expressed interest in it as a means of developing areas where no adequate ground or air transportation now exists.

Additional units of the PV-3 are now under construction for the Navy and Coast Guard, and the company expects sufficient production in the near future to supply other services. P-V also intends to produce a commercial version of the PV-3 in the immediate future, and has plans for the production of the single place PV-2 with a two-place version to follow shortly. Several even more advanced designs are on the drawing boards.

Piasecki stressed that while P-V Engineering Forum is small in size compared to the big aircraft companies, it has both the financial and physical resources available to meet any type of order involving any quantity of production necessary to fill such orders.



PV-3 in Banked, Turning Flight

State Dept. Moving Fast To Acquire Landing Rights

North Atlantic Carriers Hopeful for Equipment

NOW THAT U. S. policy in international air commerce has been reaffirmed and actual routes across the North Atlantic selected, the State Department is speeding negotiations for obtaining landing rights to make possible inauguration of the new services as soon as operational and equipment problems can be solved.

The State Department believes that landing rights in many of the countries involved will be obtained by the time the airlines are in a position to operate the new routes. In instances where permanent rights cannot be obtained immediately, the State Department believes that provisional landing rights can be consummated. And in those cases where even provisional rights may be denied temporarily, the right of peaceful transit through a country's air space is practically assured.

This optimistic picture is somewhat blurred, however, by the equipment situation although here, too, behind the scenes progress is being made to obtain for the newly certificated air carriers a number of Douglas DC-4s to permit early inauguration of the services. The negotiations involving equipment are understood to have reached a point where differences between the War department and the operators center largely around the type of DC-4s which shall be made available.

It is understood that the Army first offered some war-weary DC-4s which the airlines felt were hardly suitable for the inauguration of the new services. Developments now indicate that the

airlines may receive some of the "plush job" C-54-Es from current production and at least 20 aircraft are believed to be involved.

Military successes against Japan and the peace talk which has emanated from the Big Three conference in Potsdam has aided materially the negotiations for release of transport equipment by the War Department. The Pacific war is essentially a Navy show and the recent successes against the homeland of Japan have taken some of the urgency out of Navy appeals for assignment to Pacific operation of all excess Army transport aircraft.

Meanwhile Pan American Airways, American Export Airlines and TWA—the newly certificated international carriers—were carrying on their negotiations with leading aircraft manufacturers for the purchase of new equipment. The negotiations involved such craft as Lockheed's Constellation, Boeing's C-97—the commercial transport version of the B-29 Superfortress, and the Douglas DC-6 and DC-7 transport planes.

Early CAA certification of the C-97, now being flight tested at Wright Field, and the C-54-E is expected as a part of the stepped up activity to get this country's plan for an expanded international air transport system into operation.

In the meantime, the new international airline operators were beginning to evaluate their needs for new personnel, particularly with reference to employees who have had experience in diplomatic circles and who have knowledge of particular countries through assignments abroad. Surveys of operational and navigational facilities at the many European terminals named in the new route certificates also

will be undertaken and new technical personnel will be required to perform these duties.

Because this country now has reciprocal agreements for landing rights in Ireland, Sweden, Denmark, Iceland and Spain, it was considered a possibility that some of the U. S. international carriers, now flying under military contract, might receive early permission from the War Department to serve some of the points on their newly certificated civil routes through a modification of existing services. Granting of such permission depends upon two factors—a determination whether existing contract services being performed for the War department require, because of military necessity, strict adherence to existing services or whether the Nation's interest in the postwar international air commerce picture is sufficiently important to warrant the use of some aircraft and some schedules for familiarization and experimental flights over portions of the new commercial routes.

While the State Department is busy with its negotiations for landing rights in the countries named in the new route certificates, some foreign aviation delegations were in this country largely for the purpose of obtaining transport equipment. In some cases, the procurement of equipment is definitely linked up with the negotiation for landing rights. Because this country is the only place where suitable transport equipment may be obtained, some of the foreign countries are using their powers to grant or deny landing rights as a bargaining medium in obtaining equipment, it was understood.

In addition to the countries heretofore named as having granted the United States reciprocal landing rights, this country does have pre-war landing agreement rights with France and Britain. Under the agreement with France, two reciprocal services a week are permitted while with England two trans-Atlantic services are allowed. Under war time necessity and by mutual agreement, the

Highlights of the CAB's North Atlantic Decision

• We may confidently look forward to the sound development of a sharply expanded foreign air transportation system though precise predictions as to future volume of traffic cannot be made.

• We have no intention of encouraging a waste of public money or private investments.

• (The pattern of U. S. air transportation across the North Atlantic) must not be limited by the prospects of the immediate future but must reflect the long-range future for air service.

• . . . We believe that we should now proceed as vigorously and as promptly as possible in the development of this comparatively new means of trade and travel.

• . . . They (the issues in the case) do not include the question of whether as a matter of policy United States international air transportation shall be rendered by a single company or by a "chosen instrument."

• We recognize that competition from foreign air carrier services will develop on important routes. Such foreign competition, however, is not an adequate reason for abandoning the present statutory policy of this government.

• A reduction in travel costs . . . which Pan American advances as an objective under its plan, of course, is earnestly desired by the Board . . . The objective can be reached most surely through regulated competition . . . rather than by relying upon a world-wide monopoly.

• We believe that full advantage should be taken of the existing facilities of our domestic air carriers to permit promotion and development of international air traffic at all points served by their systems.

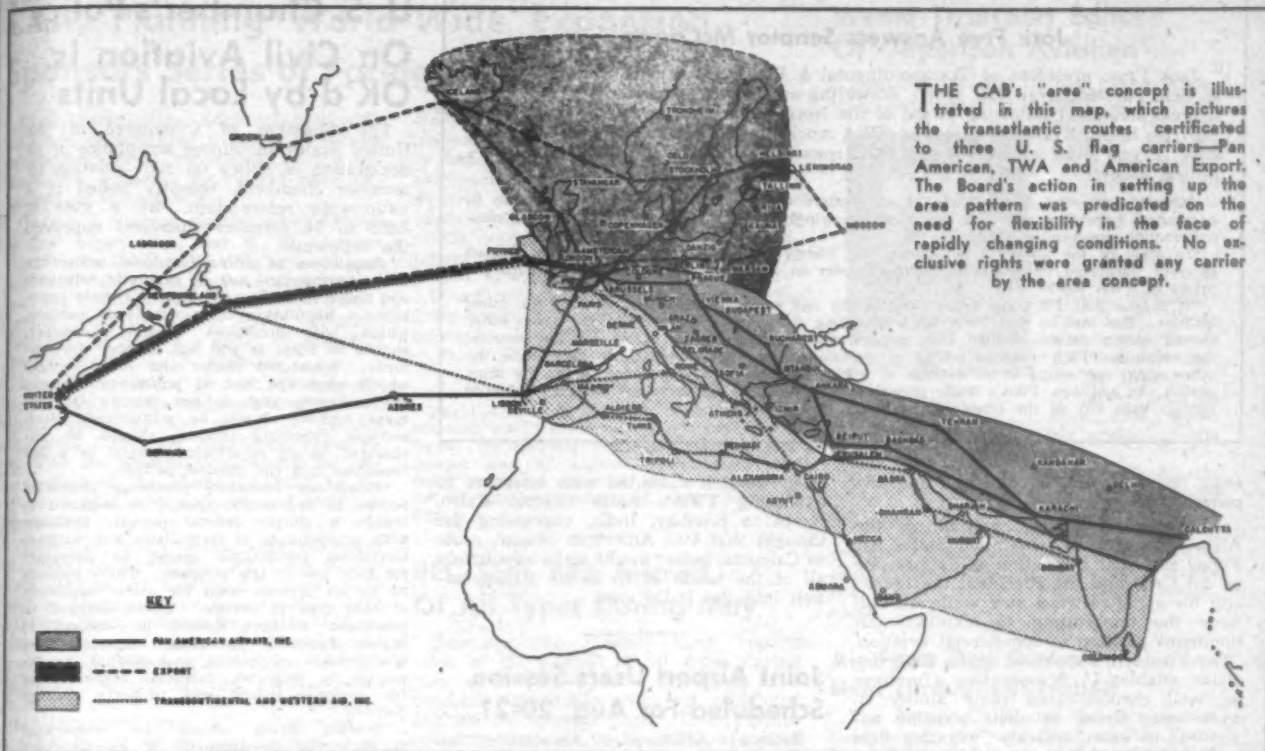
• We are unable to find that operation of an international service by one or more of the domestic air carriers would have any serious effect upon the operation of the domestic air transportation system.

• The need for flexibility in the face of rapidly changing conditions is best accommodated within a service pattern defined by areas along general routes . . . instead of the usual point-to-point pattern for domestic carriers.

• No exclusive rights are granted any carrier by the area concept.

• Our conclusions that three general routes are required take account of the traffic potentialities and distances involved in the area to be served; the probability of foreign competition and the existence of routes of Pan American to London and Lisbon . . .

• Clearly each of the international carriers should be authorized to make fuel stops at points in Canada and passengers on flights at such points should be afforded stopover privileges in accordance with the existing agreement between this country and Canada.



THE CAB's "area" concept is illustrated in this map, which pictures the transatlantic routes certificated to three U. S. flag carriers—Pan American, TWA and American Export. The Board's action in setting up the area pattern was predicated on the need for flexibility in the face of rapidly changing conditions. No exclusive rights were granted any carrier by the area concept.

services between this country and England have been stepped up considerably.

The Civil Aeronautics Board's decision, approved by the President, which laid out the pattern of routes across the North Atlantic and named the carriers to perform the services has injected new life into the entire international air commerce situation, State Department officials assert.

Delay best served the purposes of some European countries, especially England and France which have extensive plans for ultimately utilizing their own transport aircraft. But these countries, due to the war, are far behind this country in the air transport manufacturing field.

Once CAB announced the certification of new carriers across the Atlantic, these countries, as well as some of the smaller ones, immediately began looking to renewal of their civil airline operations. Some of the resulting pressure, as well as work done by the State Department, caused the lifting of the ban on June 11 on civil air operations in various military zones of Europe by Gen. Eisenhower and Air Chief Marshall Sir Arthur Tedder.

Since then SABENA has resumed operations from Congo to Brussels and the Swedes are operating three times a week into Paris. The Swiss have made flights to Spain and Portugal.

These developments all have aided the State Department in pressing negotiations for landing rights. Countries which were waiting on this country now know where the U. S. proposes to operate. As a result the negotiations are now getting down to tangible and practical considerations based on operational requirements.

Aviation observers generally feel that the Civil Aeronautics Board exercised a fine degree of discretion in the manner in which it laid out the routes to operate to and across Europe. It appears they were laid out with a mind to permit to

the extent possible the European continental lines which operate between the larger centers, such as London, Paris and Berlin to participate in the carriage of American traffic.

While two of the three U. S. carriers were certificated into London, the American who desires to visit both London and Paris on the same trip will be compelled to board either a French or British plane to accomplish this objective. On American Export's route, London ties up with Amsterdam, Berlin, Warsaw and Moscow. On Pan American's route, the route is from London to Brussels, Prague, Budapest, Bucharest, Istanbul, Ankara, Tehran, Karachi and Calcutta. TWA enters Europe through Foynes on one leg and Lisbon on the other, with Paris and Madrid the first points on the continent to be served, and with the lines joining at Rome, with another spur line running from Madrid to north Africa and linking up with the main route again at Cairo and thence continuing on to Jerusalem, Basra, Dhahran and Bombay.

Thus it will be seen that continental airlines serving these cities which have a great community of interest with cities in contiguous countries are bound to obtain a considerable share of American travel, once the traveler disembarks from an American Flag line plane at any point along the route. The best example is London and Paris and Paris and Berlin.

Whether an American desiring to visit both London and Berlin on a trip will be permitted stop-over privileges in London before boarding an American Flag carrier for the German capital cannot be decided until such permission is obtained by signing the Five Freedoms or some bilateral agreement.

The Board's decision was hailed in aviation circles as the opening of a new era in international transportation.

Capt. E. V. Rickenbacker, president of Eastern Air Lines, said that the decision by the CAB is courageous and typically American.

"Their choice of three of the leading American operators insures maximum of competition and should establish American International Air Transport in the position it justly deserves. Their decision, if followed up by the balance of the world air routes, will insure America's rightful position with the competitors of other nations."

Jack Frye, president of TWA, said the awarding of the new routes to 20 foreign cities will place many important cities in the United States in the advantageous position of being ports "on the ocean of the air." Highly enthusiastic over the decision itself, TWA officials also were pleased that the Board, in its opinion, had followed the TWA suggestion of awarding routes on a traffic generating area basis which would provide the carriers with a degree of flexibility in developing the service in its particular zones as experience and traffic potentialities dictated.

Commenting on the Board's approval of American Airlines' acquisition of American Export Airlines, Ralph S. Damon, president of American and Sumner Sewall, president of AMEX, said: "We view the permission to combine the experience and operating ability of American and American Export as an opportunity to render a completely new and higher standard of public service in the field of air transportation. Combining these two experienced companies will have beneficial effect upon those who travel abroad by air to and from points within the United States. The services presently rendered will be substantially increased just as soon as world conditions permit. In the meantime services pres-

Jack Frye Answers Senator McCarran

Jack Frye, president of Transcontinental & Western Air, has written a letter to Sen. Pat McCarran (D., Nev.) answering an inference made by McCarran in a press statement following award of the North Atlantic air routes by CAB that the rise in stock market prices of TWA stock "might be a factor" in the decision. Frye's letter which was sent to all members of the Senate Commerce Committee, follows:

"Knowing of your fair attitude in all matters and your great interest in aviation in particular, I am sure that you would not knowingly be a party to the spreading of misinformation concerning TWA.

"In view of the above, I am taking the liberty of correcting an impression created by your purported statement to the newspapers on July 6 concerning the rise in market prices of TWA stock.

"It is true that TWA stock has risen in the last several months but so have the other airlines. The fact is, that TWA stock is selling substantially lower than the seven other United States airlines (which issue reports on a calendar year basis) on the basis of net earnings. TWA stock is selling at seventeen times net earnings for 1944 while the other seven are selling at an average of thirty-one times their net earnings for the same period. In addition, TWA's traffic growth and earnings so far this year have grown more rapidly than any of the other companies in this group."

ently operated will be continued and improved."

Alexander B. Royce, chairman of the Airlines Committee for United States Air Policy said that the nation will appreciate as did CAB and the President the necessity for going forward now while we still have the opportunity to maintain our dominant position in commercial aviation. "The President's approval of the CAB decision enables U. S. operators who have so well demonstrated their ability in over-ocean flying by their wartime activities, to enter actively into this field and to assure America of her rightful place of leadership in the air," Royce said.

Board Member Harilee Branch wrote a concurring and dissenting opinion in the

Los Angeles IAS Meeting Scheduled for Aug. 16-17

The Institute of Aeronautical Sciences will meet in Los Angeles on August 16 and 17 at the Hollywood-Roosevelt Hotel with attendance restricted to the Los Angeles Area. Other meetings are scheduled for Detroit, October 4, 5; Washington, October 26; Dayton, November 16; and Washington, December 17. Among the speakers will be M. U. Clauser, Power Plant Engineer, Douglas Aircraft Co.; R. A. Averitt, Armament Section, Aviation Division, General Electric Co.; Capt. George B. Rheinfrank, Jr., and Capt. Wayne A. Norman, Engineering Division, Air Technical Service Command; Brig. Gen. F. O. Carroll, Chief, Engineering Division, Air Technical Service Command; George Snyder, Chief of Structural Design, Boeing Aircraft; F. L. Boeke and R. A. Paselk, Heating and Ventilation Engineers, North American Aviation; J. F. McBrearty, Division Engineer Structural Engineering, and D. C. Hill, Engineering Designer, Lockheed Aircraft Corp.; Control in Helicopter Flight, James G. Ray, vice president, Southwest Airways Co.

W. H. Moose Killed in Crash

Willard H. Moose, senior test pilot of the Indiana division of Republic Aviation Corp. was killed in a recent crash while attempting to land near New Harmony, Ind. He was the first test pilot to be lost at Republic's Evansville plant since it started operation.

case. Branch dissented with reference to extending TWA's route beyond Cairo, Egypt to Bombay, India, expressing the thought that Pan American central route to Calcutta, India, would serve adequately all of the needs of U. S. air transportation into the India area.

Joint Airport Users Session Scheduled For Aug. 20-21

National Aeronautics Association has announced that its third Joint Airport Users Conference will be held at the Hotel Statler in Washington, Aug. 20-21.

Subjects on the agenda include airport areas, plane handling, equipment, finance, management, and the social effects of the airport. Special consideration will be given to the legislative aspects of developing a nation-wide system of landing facilities.

The conference was originally planned for July 23-24, but NAA said it had been postponed to the August dates in order to expand the agenda.



Gen. Powers Joins NACA—John F.

Victory, secretary of the National Advisory Committee for Aeronautics, is shown swearing in Gen. Edward M. Powers, Assistant Chief of Air Staff, Materiel and Services, Army Air Forces, as a member of the NACA.

U. S. Chamber's Policy On Civil Aviation Is OK'd by Local Units

The Chamber of Commerce of the United States announces acceptance of its declaration of policy on civil aviation by member chambers, recently polled in a nationwide referendum. By a vote of 2,635 to 34, member chambers approved the following:

"Regulation of primary airlines under the Civil Aeronautics Act is generally adequate and there is no present need for state regulation. Regulation of contract air carriers, which will doubtless become necessary, should be such as will not hamper development. Scheduled feeder and local services which meet the test of public convenience and necessity and do not require Government support should be authorized. Such services requiring support should be authorized on an experimental basis in a few localities and for limited periods.

"Fixed-base operators providing interstate service to the public should be required to obtain a simple federal permit, available with a minimum of formalities and without territorial restrictions except as necessary for safe use of the airspace. There appears to be no present need for state regulation of this type of service. Those engaged in passenger services should be subject to higher standards for plane inspection and qualification of pilots, and should be required to establish financial responsibility for personal injury and property damage liability.

"Private flying should be encouraged through the development of an adequate system of airfields, encouragement of widespread aviation education and simplification of regulations. Expanded peacetime aviation training should be developed, including increased attention to aviation in regular school and vocational courses, specialized ground training and flight training. A continuing program of aviation research adequate for the national needs should be provided for by the Government to supplement such work by the aviation industry, educational institutions and other private research agencies. The work should be allocated to private agencies under supervision and coordination by an overall national research body.

"The airways system should be promptly modernized in accordance with the new technical developments resulting from the war. Development of airports and other landing facilities to meet postwar needs should be worked out through a federal-aid system, the initiation and planning of projects to be the primary responsibility of the states in cooperation with federal and local authorities.

"The federal aviation authority with substantially its present responsibilities and powers should be reestablished as an independent agency reporting directly to Congress but with provision for separate investigation of air accidents. In the present condition of aviation development states should concentrate efforts on airport matters and other aviation promotional work and should limit regulating activities to the minimum necessary to meet established needs."

Relative to trade barriers, member chambers approved the following declaration, 2,729 to 10:

"The great free trade area within our country has been one of the most vital factors in the development of our national economy. That indispensable factor is now threatened by the progressive erection of discriminatory barriers to trade between the states. States should refrain from imposing sanitary or other embargoes beyond absolute needs. We endorse the voluntary movement among the states themselves now going on to reduce discriminatory barriers."

CAA, Planning World-Wide Expansion, Sponsors Series of Foreign Missions

Civil Aeronautics Administration officials are undertaking a series of foreign missions in rapid succession, as the organization prepares for world-wide expansion of its activities.

Charles I. Stanton, deputy administrator of civil aeronautics, and W. E. Jackson, chief of the CAA radio development section, will leave for England soon to attend the Commonwealth and Empire Conference on Radio for Civil Aviation. They will be part of a group of observers from interested U. S. agencies.

John E. Sommers, aircraft control officer of CAA, is expected back shortly from Spain, where he has served on an Air Transport Command committee negotiating with the Spanish government for improvement of the Madrid Airport in the interests of U. S. military and civil air operations.

Gilbert B. Smith, acting superintendent of safety regulation for the CAA in the First Region, is leaving his New York post on assignment as liaison officer with Lt. Gen. Brett, commanding general, Caribbean Defense Command. With headquarters in Balboa, Canal Zone, he will assist in matters affecting civil aviation in all the countries of the Caribbean Defense Command area. The assignment of a CAA liaison officer was requested by General Brett.

Carl Posey, of the CAA Airport Service, is completing a mission as technical adviser on airport construction in Costa Rica. He will be succeeded in Costa Rica by Ward B. Masden of the CAA Safety Regulation Service, who will assist the government in drafting a code of civil air regulations.

Claude Sterling and Leon Donnelly, also of Safety Regulation, have just returned from a preliminary study of air transport needs in Uruguay, which has requested U. S. technical assistance in setting up a government-owned airline for operations within the country. All services furnished by the U. S. will be reimbursed and the proposed airline would not be in competition with any U. S. carrier.

Alfred Hand, chief of the CAA Division of International Activities, recently returned from a conference in Montreal with the Canadian Preparatory Committee for the Interim Council of the Provisional International Civil Aviation organization, which is to meet in August.

Fred Lanter, assistant CAA administrator for safety regulation; James Kinney, acting director of Flight Operations Service under Lanter; and Chris Lample, acting director of Air Navigation Facilities Service, currently are flying around the world on an inspection tour of Air Transport Command facilities with an eye to the postwar international needs of U. S. carriers.

Plans now are being worked out, subject to the availability of funds, for establishment during the current fiscal year of CAA offices in London, Stockholm, Lisbon, and San Juan, Puerto Rico. It is expected that it will be necessary to station air carrier inspectors in the first three of these offices as a result of recent Civil Aeronautics Board action in granting certificates for operations by three U. S.

airlines across the Atlantic. A general inspector also may be stationed in London to handle applications for civilian pilot and mechanic certificates from Army personnel. Puerto Rico is slated for an office because it is already on three airline routes, and additional operations, northbound as well as southbound, are expected to channel through the island.

If sufficient funds are appropriated, the CAA hopes to set up offices at 17 foreign points by July, 1947.

Joins Traffic Guide' Staff

David H. Rotroff has been appointed to the editorial staff of AMERICAN AVIATION TRAFFIC GUIDE, the schedule and rate reference publication used by airlines, travel agents and traffic managers. During the past 17 years Rotroff has been associated with transportation.

RFC Sells 762 Aircraft Of All Types During May

Reconstruction Finance Corp. reports sales of 762 aircraft of all types during May while its total sales of aircraft have reached \$19,664,000 with an additional \$103,000 for aircraft parts. Total surplus property disposed of by RFC is valued at \$235,380,000 and sold for \$133,462,000 as of May 31.

Between May 1 and 30, RFC sold 91 liaison planes, 390 primary trainers, 197 cargo and transport planes (with an additional 9 leased), 59 basic trainers, 3 fighters and bombers, and 22 gliders. The cumulative report through May 31 follows:

Cumulative through May 31, 1946				
Saleable Aircraft and parts (k)	Acquisitions		Sales	
	Reported Cost \$	Reported Cost \$	Price \$	On Hand May 31 Reported Cost \$
42-2 Airplanes, military (a)				
Liaison planes	8,906,500	7,326,849	2,318,300	1,379,720
Number	(3,144)	(2,739)	(405)	
Primary trainers	80,235,837	30,120,426	3,050,878	50,115,409
Number	(7,380)	(2,800)	(4,580)	
Cargo and transport planes	156,622,217	17,340,442	5,466,935*	119,497,830
Number	(3,032)	(410)	(2,507)	
Basic and advanced trainers, etc.	2,450,111	2,450,111	326,194	
Number	(73)	(73)		
Fighters and Bombers	1,063,787	1,063,787	147,200	
Number	(9)	(9)		
42-2 Trainer planes (b)	14,115,046	14,110,418	8,200,110	4,630
Number	(5,378)	(5,376)	(2)	
42-35 Barrage Balloons	47,500	47,500	475	
Number	(19)	(19)		
42-36 Gliders	5,020,287	946,901	140,927	4,071,386
Number	(1,070)	(378)	(692)	
42-51 Engines (e)	18,474,736	8,208	400	18,466,528
42-51 Engines (b)	40,829	10,433	7,306	30,196
42-52 Engines parts and accessories (e)	3,120,700			3,120,700
42-52 Engines parts and accessories (b)	500	500	494	
42-62 Link trainers (a)	3,088			3,088
42-62 Link trainers (b)	246,910	246,910	78,706	
42-4-6				
7, 8, 9 Aircraft parts and equipment (e)	8,161,284	25,812	9,106	8,135,972
42-4, 6				
7, 8, 9 Aircraft parts and equipment (b)	7,771	7,771	6,558	

(k) Excludes non-saleable inventory of non-flyable planes, combat planes, etc.

(a) Outside owned, handled at Washington Office

(b) RFC-owned, handled at Washington Office

(e) Handled in field.

* Plus leases of 115 transport planes with reported cost of \$18,814,916.

Wentz Transport Editor Of 'American Aviation'

Daniel S. Wentz, II, has joined AMERICAN AVIATION Publications as transport editor. He was formerly employed on the staff of Aviation News covering transport for that publication.



Wentz

he was commissioned an ensign in the Navy.

He served in the Navy until March, 1944, when he was given an honorable discharge. He joined the staff of Aviation News the same month. He is a member of the Aviation Writers Association, Pi Delta Epsilon, honorary journalistic fraternity, and Phi Sigma Kappa, social fraternity.

Air Force Day Dinners Held Throughout Nation

The Wings Club and the Air Power League were to have given an Air Force Day dinner in honor of Gen. Arnold at the Waldorf-Astoria Hotel in New York, August 1. Gen. Arnold was scheduled to fly to New York from Potsdam, Germany, for the dinner. An honorary membership in the Wings Club was planned for Gen. Carl Spaatz. The Air Power League sponsored dinners throughout the country.

Eight-Engine Hughes Flying Boat Introduces

THE eight-engine Hughes Hercules flying boat, Hughes Aircraft Co. disclosed last week, will not only dwarf all other aircraft in the world in the matter of size, but in addition will serve to introduce a new engine control system based on the Pneudynes used by the railroads for brake control, and a dual hydraulic telecontrol system for operating the flight controls, among other innovations.

The Hercules has a span of 320 ft., an overall height of 220 ft., and a gross weight of 200 plus tons. The wing is 13 ft. thick at the root. The hull is 30 ft. high and 25 ft. wide. Power will be supplied by eight 3,000 hp. radial engines driving four-bladed Hydromatic propellers 17 ft. 2 in. in diameter. The props on the four inboard engines are capable of producing reverse thrust to provide greater maneuverability in the water and assist in reducing speed after landing. Fuel is contained in 14 1,000-gal. tanks in the hull and will weigh approximately 42 tons.

The Hercules is expected to have a top speed at sea level of 218 mph, a cruising speed of 175 mph, and a landing speed of 78 mph. Estimated take-off distance is 5,500 ft. When completed, the craft will be able to carry a 60-ton heavy tank, or three light tanks; and as a hospital ship should be able to accommodate 350 patients on stretchers together with doctors, nurses and a surgery. As a troop transport it could carry over 400 men with full equipment.

One of the unusual aspects of the Hercules is that it is constructed almost entirely of wood, with regular aircraft birch predominating. Because of the tremendous size of the project, many new wood handling techniques had to be developed. In general, all birch parts have been made from veneers varying in thickness from 1/64 to 1/2 in. and laminated by the Duramold process. Most spruce parts were made from solid billets, although the 10 in. x 10 in. x 100 ft. longeron billets were built up of 3/16 in. laminations.

The cargo floor in the hull was designed to carry a load of 125 lbs./sq. ft., and supporting frames have been designed so that by laying the proper planks across the floor any heavy piece of equipment up to and including a 60-ton tank can be rolled in under its own power and transported without dismantling.

The bottom skin is 1/2 in. thick and designed to take much higher bottom pressures than those used on smaller flying boats. Eighteen watertight compartments are provided in the hull below the cargo deck, and house the main gas tanks. If 12 of these compartments were to be flooded, the ship would still remain afloat.

The entire exterior of the Hercules is finished with a special Hughes developed process consisting of one coat of wood filler, one coat of sealer which acts as a cement for a coat of thin tissue paper placed over it, two coats of spar varnish, and one coat of aluminized spar varnish. The tissue paper was applied, the company says, by regular paperhangers.

The engines are installed on the leading edge of the wing, and a passage is provided in front of the front spar per-

mitting the flight mechanic to inspect them and make minor adjustments during flight. All fuel, oil, hydraulic and pneumatic lines are routed along the spar. Even the nacelle structures are of all-wood construction and are mounted to the front spar by welded steel tube adapters. Only the cowlings and other structure forward of the firewalls are all-metal.

A small oil tank sufficient to supply the engine for a reasonable time is located in each nacelle, and may be refilled at any time from a central oil reservoir by a semi-automatic control system. The engines are equipped with "jet stacks" to convert as much of the exhaust gas energy as possible into thrust. The propeller spinners incorporate blower fans to provide cooling while taxiing and under other critical conditions.

Two transfer pumps supply fuel from the 14 main hull tanks to a service tank in each wing. Each tank supplies fuel to four engines selected to give a lateral balance of power in the event that one tank, its booster pump or system fails. In addition a separate emergency system is provided to supply fuel direct from the hull tanks to each engine. Fuel lines, incidentally, range from 1-3 ins. in diameter and are equipped with slip joints and "floating" fairleads to provide for relative wing deflection.

Engine control is based on Pneudynes, which are devices using compressed air for precisely transmitting very small motions at long distances. The compressed air supply is supplied by electrically driven compressors which are operated automatically to maintain desired pressure in the air bottles. In the event of compressor failure, the bottles have sufficient capacity to outlast a normal flight.

The pneumatic system is completely

enclosed, and requires only a small amount of make-up air. It is equipped with moisture absorbing devices to safeguard against freezing. All engine controls are actuated by the Pneudynes from the flight engineer's station, the pilot controlling only the engine throttles.

Flight controls are actuated by a dual hydraulic telecontrol system which transmits the pilot's controlling motions and amplifies his efforts instantaneously. Operating power is supplied by electrically driven, high pressure hydraulic pumps which provide oil to sensitive relay valves actuated by the pilot. The hydraulic telecontrol system is not only capable of transmitting the pilot's motions to the control surfaces, but being reversible, it also signals gust forces back to the pilot, thereby anticipating changes in attitude of the ship while flying. Two completely independent, self-contained and individually sufficient telecontrol systems supplied with electric power from separate generators are provided for each control surface. There are also 3/16 in. cables, but these act as follow-up cables only and are used to maintain the proper position relationship between the pilot's control and the control surface. Pilot's controls are of the conventional column and wheel type for elevators and ailerons, while the rudder pedals move parallel to the floor in the manner of the old type rudder bar. Trim tabs are operated electrically by toggle switches in the cockpit.

The all-wood construction of the Hercules is said to have saved many engineering man hours, largely due to the fact that it is easier to draw wood structure than metal. Fabrication of the eight-engine craft has been virtually completed, but it must now be moved to new facilities which are being prepared at Long Beach, and assembled. While no definite date has as yet been set, it is expected that the Hercules will be ready for flight testing early in 1946.



Home of IAS—The Institute of the Aeronautical Sciences has purchased the residence of the late E. J. Berwind, facing Central Park in New York. The building contains 35 rooms and two elevators. It will be remodeled to provide for the extensive libraries and exhibits of the Institute. IAS will move from Rockefeller Center into the new building in the fall.

Junior Chamber Air Promotion

Promotion of a national aviation program to preserve military air power and develop civil and private aviation is the No. 1 program of the Junior Chamber of Commerce for 1945-46. Henry J. Kerns, president of the U. S. Junior Chamber of Commerce revealed recently. Vernon Willis of Las Vegas, Nev., an executive of Western Air Lines, has been named national chairman of the organization's national aviation committee. The committee plans to work out a detailed plan to promote small airport and airpark development, create an expanded pilot training program, institute aviation courses in schools and colleges, and oppose trade barriers and local restrictions which might hamper the "active growth of aviation."

278 Planes Condemned

American air service command officers in Britain condemned 278 "war-weary" American planes, originally valued at \$58,344,725, during June and the scrap was turned over to the British ministry of aircraft production. High staff officers said the planes included 60 Flying Fortresses and 90 Liberators. Engineering officers and technicians examined every plane at air bases throughout the United Kingdom last month and those not meeting the standard were scrapped.

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New Engine Control System; Weighs 200 Tons



Upper Left—Artist's sketch of Hughes flying boat over Long Beach, Calif. Upper Right—Interior of hull from half-way station looking aft. Center Left—Mockup of cockpit. Center Right—Aileron of flying boat contains 1,062 sq. ft. (Man at left is six feet tall.) Below—Wing panels in dihedral position during mating. Overall wing span is 320 ft.

Hawaii Mars Launched; First Of Twenty 70-Ton Navy Boats

Martin Says There Always To Be Need For Flying Boats

THE "Hawaii Mars", first of the twenty 72½-ton flying boats to be built by the Glenn L. Martin Co. for the Naval Air Transport Service was launched and christened Saturday, July 21, at the Martin Strawberry Point seaplane base.

Mrs. DeWitt Clinton Ramsey, wife of Rear Admiral Ramsey, who was chief of the Bureau of Aeronautics when the JRM Mars contract was awarded to the Martin Co. in January 1944, sponsored the big cargo transport—second aircraft in history to be accorded an official Navy launching—and following short speeches by Glenn L. Martin, Lt. Gen. Hoyt S. Vandenberg, acting assistant chief of the air staff, Rear Admiral Lawrence B. Richardson, assistant chief of the Navy Bureau of Aeronautics, and the Hon. Theodore R. McKeldin, Mayor of Baltimore, broke the traditional bottle of champagne across its bow.

While all attention was focused on the ceremonies at the seaplane base, an equally significant event took place at the nearby Martin plant where at the very moment the "Hawaii Mars" slid down the ways the first of her 19 sister ships was being rolled out the doors of the final assembly building. Six more of the big

tion "write finis to the ill-fated words, 'too little and too late,' as far as our forces in the Pacific are concerned.

Lt. Gen. Vandenberg, after paying tribute to another Martin-built aircraft, the B-26 Marauder, said:

"The great work of the Naval Air Transport Service and the Army Transport Command has made victory possible in Europe and preceded great victories in the Pacific. I cannot help but think of the vital work that will be done with these new flying boats for those men who are fighting to bring this war to a close."



Mrs. DeWitt Clinton Ramsey, wife of Rear Admiral Ramsey swings the traditional bottle of champagne as Glenn L. Martin looks on.



The new "Hawaii Mars" is accompanied by its distinguished predecessor as it crosses over Middle River on its maiden flight.



Profile of 'Hawaii Mars'

flying boats are already in various stages of fabrication, and will follow in rapid succession while still 12 other Mars take their place in the assembly jigs.

Speaking to the gathering which included many top ranking Army as well as Navy officers, President Glenn L. Martin characterized the event as the most important milestone in the history of his company.

"There will always be large landplanes and larger flying boats in the air transportation systems of the world," he said, "but we now know the most efficient air transport of today and tomorrow will definitely be the very large flying boats such as the 'Hawaii Mars,' and as the daily tons of cargo increase, greater and even more flying boats the size of the 'Hawaii Mars' will be built and will retain leadership as the most efficient type of cargo-carrying air vessels in the world."

Rear Admiral Richardson said the "Hawaii Mars" and her sister ships now nearing completion and under construc-

Central American Air Power Being Studied by Committee

Continuing a survey which eventually will cover every republic in this hemisphere, a subcommittee of the Inter-American Defense Board recently completed a study of aviation facilities of the armed forces in Mexico, Guatemala, El Salvador and Honduras. The trip included inspections of twelve key air fields.

The survey was made in conformance with Resolution XII of the Inter-American Defense Board, which stipulated that air officers should make a technical study of the air organization of the western Hemisphere and then recommend what should be done to improve and coordinate the air power of the Americas. The subcommittee made the third phase of the study, which already has covered installations in the United States, Cuba, Haiti, the Dominican Republic, Panama, Costa Rica and Nicaragua.

Scheduled to take part in this phase were Major General Robert L. Walsh, United States, chairman of the Board's Air Committee; Colonel Oscar Morales Lopez, Guatemala; Major Josue Lopez Henriquez, Venezuela; Major Rafael Vales, Colombia; and Major Eduardo Aldasoro Suarez, Mexico. They were accompanied by technicians and by members of the Board's Secretariat.

Army Agrees to Repair Damaged Baltimore Airport

A series of conferences between Baltimore city officials and the Army has resulted in agreement that damage to Baltimore Airport runways will be repaired by Army engineers without cost to the city. City officials estimate the damage at \$293,000.

The Army took over the airport in May, 1942, and plans to return it to the city August 2. Runways will be fixed by the Army to meet the city's specifications. This conversion work already has been started.

Aircraft Industry Has Largest Assets, SEC Report Shows

The aircraft and aircraft equipment industry group reported the largest total assets of 40 industry groups covered in a balance sheet data survey of American listed corporations made public last fortnight by the Securities and Exchange Commission.

A steady increase in net worth, assets, working capital and dividends paid is shown for the years 1939 to 1943.

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Post Office Department Pays Airlines 28½ Million in Year

Mail Report for 12 Mos.
To June 30, 1944 Filed

THE Post Office Department paid domestic air carriers \$28,401,373 for 101,954,304 miles of air mail flown during the fiscal year ended June 30, 1944, according to the annual report of the Postmaster General, just released.

The 1944 figure was a \$5,000,000 increase over the previous fiscal period, but represented a saving of \$2,035,889 in unexpended funds from the 1944 fiscal appropriation for domestic air mail service.

Although the annual report did not provide a break-down of revenues and expenditures for the full 1944 fiscal period, a cost ascertainment report for the 12-months period ended March 31, 1944, showed these results for domestic air mail:

Revenues—\$77,310,000; expenditures, \$52,819,000, providing an excess of \$24,491,000 in revenues over expenditures. These figures did not include "V" or any other air mail to and from the armed forces overseas handled outside the U. S. by the Army and Navy.

The latter type of mail comprised about \$27,500,000 in revenues, and \$19,000,000 in expenditures for the period ended March 31, 1944.

The domestic carriers performed 85,802,866,010 air mail pound miles during the 1944 fiscal period, compared with 56,492,340,380 in 1943—a 50% increase. Revenue miles flown in 1944 were 106,954,304, making the average cost per mile 26.6c.

The report listed 27 Alaska air mail routes in operation at the end of the

fiscal period at an annual cost of \$101,513. In addition, the Post Office Department expended in Alaska \$138,300 for the operation of Star Routes, about 42% of which were flown by aircraft.

The cost of foreign air mail service dropped from \$5,325,701 in 1943 to \$3,257,896 in 1944, although the miles flown increased from 15,633,482 to 19,510,896 in the comparable periods. Average cost per mile for foreign air mail service was 17c in 1944, compared with 34c in 1943.

The cost ascertainment report for the 12 months period ended March 31, 1944, showed revenues of \$45,854,000 from foreign and other air mail services, compared with expenditures of \$34,288,000, leaving an excess in the black of \$11,566,000.

Included in this revenue was \$37,055,000, comprised in part of "V" mail and other mail to and from the armed forces, and \$1,948,000 from foreign countries for handling mail in transit through the U. S.

The following table gives a summary of foreign air mail operations:

	Service scheduled	Service performed	Percentage of performance	Compensation
1. New York-Montreal (Colonial)	724,382	681,145.0	94.03	\$140,337
5. Miami-La Guaira (PAA)	670,980	670,884.0	99.99	
Miami-San Juan	2,422,070	2,403,529.0	99.23	
San Juan-Port of Spain	716,491	706,689.0	98.63	
Port of Spain-Buenos Aires	3,499,069	3,496,901.0	99.65	
Port au Prince-Kingston	10,536	10,536.0	100.00	
Miami-Havana	383,520	379,995.0	99.08	
Miami-Merida	165,984	155,718.0	93.82	
Miami-Canal Zone	1,095,489	996,415.0	90.96	1,899,735
Miami-Barranquilla	469,414	459,265.0	97.84	
Miami-Port au Prince	87,243	86,184.0	98.78	
Miami-Nassau	102,272	100,956.0	98.71	
Brownsville-Canal Zone	3,096,100	3,072,378.0	99.23	
New Orleans-Canal Zone	953,544	758,122.0	81.21	
Canal Zone-Port of Spain	955,260	951,796.0	99.64	
9. Canal Zone-Buenos Aires (Panagra) ..	3,752,390	3,687,416.0	98.27	1,130,154
21. Bangor, Maine-Moncton, N. B. (NEA) ..	269,178	210,268.5	78.12	75,912
26. El Paso, Fort Worth-Mexico, D. F. (AA) ..	720,654	692,699.0	96.12	7,508
Clerk service at Canal Zone				4,250
Total	20,074,571	*19,510,898.5	97.19	*3,257,896

*Subject to final adjustment.

Statement of weights of revenue-producing mail carried on United States foreign air mail routes during the fiscal year 1944.

Weight	Percent increase or decrease over 1943
United States foreign air mail routes:	
United States origin	+21.8
Canal Zone origin	-33.9
Foreign origin	-36.1
Total	+18.9
Foreign-origin mail carried on United States domestic air routes only (does not include mail from Mexico and Canada, figures on which are not available)	-65.3
United States origin air mail carried on routes of foreign countries	-45.7

American Airlines System New Name of AA-AMEX

American Airlines System on July 24 became the official corporate name of the combined operations of American Airlines and American Export Airlines, according to a joint statement by Ralph S. Damon and Sumner Sewall, presidents of American and Amex respectively.

The statement said that the two companies would retain their corporate identities, but will operate overseas and domestically as a single system, thus becoming the first service of its kind under the U. S. flag.

American's acquisition of Amex was approved in the CAB's North Atlantic decision. That decision also extended Amex's foreign routes to northern European countries.

C. R. Smith, chairman of the board of American, said with respect to the new operating setup that "the government of the United States has given American Airlines System the privilege of engaging in overseas commerce. Thus it becomes one of the principal 'American Flag' lines in international air transportation.

"We are aware of the responsibility on behalf of this nation which goes with this assignment and we shall fulfill that responsibility with diligence and sincerity."

U. S. Research Foundation With Five Divisions Urged

Dr. Vannevar Bush, director of the Office of Scientific Research and Development, in a report submitted to the President, recommends the establishment, by Congress, of a National Research Foundation with the following five divisions: Medical Research, Natural Sciences, National Defense, Scientific Personnel and Education and Publications and Scientific Collaboration.

The report, prepared at the request last November of President Roosevelt, recommends that (1) That the Foundation be formed to develop scientific research, financially support basic research in non-profit organizations, encourage scientific talent in American youth by offering scholarships and fellowships and promote long-range research on military matters (2) That the Foundation consist of nine members to be selected by the President and be responsible to him. They shall serve four years and without compensation.

Dr. Bush said that the cost of conducting the Foundation's work would be about \$35,000,000 the first year and might rise gradually thereafter.

Navy Completes Pre-Termination Agreement With General Motors

While negotiations are pending with numerous contractors for pre-termination agreements to facilitate conversion, the Navy announces it has completed such an agreement with the Eastern Aircraft Division of General Motors Corp. involving \$404,000,000 in undelivered aircraft. This is the first of the kind to be completed by the Navy.

The Navy's formal announcement, in part, follows:

"By reaching agreement now on many matters which can be settled, it is believed that ultimate settlement of the contract, whenever termination occurs, will be facilitated, thus paving the way for prompt clearance of inventory and equipment from the company's five plants, and aiding in conversion to civilian production."



What are Your Prospects for East-West Air Travel without a **PRIORITY?**

AT the present time, TWA is flying about twice as many plane-miles as before the war.

This is partly due to the recent addition of airplanes, but also results from getting nearly twice as much flying service from each plane we have.

In spite of this increased capacity, the only honest answer to the above question is, we regret: "Not good."

Here's why:

- ★ The greatest movement of troops of the war is now under way. It is taxing all forms of transportation — airlines included.
- ★ Movement is in both directions. Military personnel, and other high-priority travelers are moving from west to east as well as east to west.
- ★ Air mail and air cargo have hit new high levels of volume. Rating as essential, these take precedence over nonpriority passengers. Since a plane can carry only so many pounds, flights sometimes start with some empty seats — full cargo compartments.

Under such circumstances only *high* priority passengers can be sure of getting to their destination.

Others not only find their trip interrupted, but frequently find it impossible to secure other forms of transportation or hotel accommodations. In spite of all we can do, they are often badly inconvenienced.

For this unhappy situation, no one can be blamed. It exists through national necessity — and the hard fact that we still have a big war to win.

Naturally, if your trip is really vital, TWA will, as always, make every effort to take good care of you.

But until we can provide better, more certain, over-all service, we urge you not to travel unless your trip is necessary.

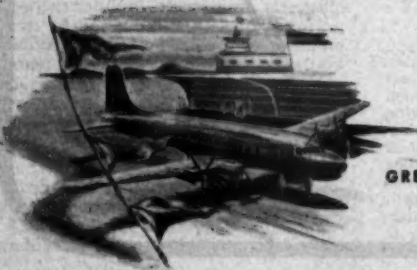
Lack Faye
President TWA



DOUGLAS EQUIPPED AIRLINES: Alaska Airlines — All American Aviation — American Airlines — American Export Airlines — Braniff Airways — Chicago & Southern Air Lines — Colonial Airlines — Continental Air Lines — Delta Air Lines — Eastern Air Lines — Hawaiian Airlines — Inland Air Lines — Mid-Continent Airlines — National Airlines — Northeast Airlines — Northwest Airlines — Pan American Airways — Panagra (Pan American-Grace Airways) — Peco & Rice Airways — Pennsylvania Central Airlines — Transcontinental & Western Air — United Air Lines — Western Air Lines — A. B. Aerotransport (Sweden) — Aer Lingus (Ireland) — Aerovias Braniff S. A. (Mexico) — Aerovias de Guatemala, S. A. — Aerovias do Brasil — Aerovias Venezolanas — American Airlines of Mexico — Australian National Airways — Avianca (Colombia) — BOAC (British Overseas Airways) — Canadian Pacific Airlines — China National Airways — Cia. Mexicana de Aviacion — Cia. Nacional Cubana de Aviacion, S. A. — Cruzeiro do Sul (Brazil) — Deutscher Lloyd (Germany) — Direction de Transportes Aereos (France) — IBERIA (Spain) — Indian National Airways — K.L.M. (Royal Dutch Airlines) — K.N.I.L.M. (Dutch East Indies) — Lloyd Aereo Boliviano (Bolivia) — Pousa do Brasil — RUMBA (Uruguay) — Royal Norwegian Airtransport — SABENA (Belgian Congo) — Swissair (Switzerland) — TACA de Colombia — TACA de Venezuela — TATA Airlines (India) — Trans-Canada Air Lines — UMCA (Central America).

The Sun never sets on a **DOUGLAS TRANSPORT**

..bringing back wounded heroes and carrying fighting men and munitions to turn the tides of battles. When the war is over, cruising in excess of 300 miles per hour along the routes of leading airlines, the giant Douglas DC-6 will take you anywhere over land or sea with comfort, speed, economy, and assurance beyond anything you have ever imagined.



GREATEST NAME IN AVIATION

DOUGLAS DC-6

Sister Ship of the Famous C-54 Combat Air Transport

Convair's Model 110 Has Retractable Stairway; Carries Thirty Passengers

A 30-passenger postwar transport designed to provide "the ultimate in passenger comfort and operating efficiency" was announced by R. F. C. Taylor, commercial sales director of Consolidated Vultee Aircraft Corp., at the quarterly

ft. Wing loading is 39.4 lbs./sq. ft., weight empty 20,680 lbs., and design gross weight 32,300 lbs. It is estimated that it will carry an 8,000 lb. payload over normal domestic ranges. Landing gear is of tri-cycle type with dual wheels and tires.



Artist's Sketch of '110'

meeting of the operating division of the Air Transport Association. It is designated as Convair Model 110.

Stating "this is the airplane the airlines have asked for," Taylor described the transport as a newly-designed, modern, postwar aircraft that will carry heavier payloads with greater economy than was possible with prewar or current commercial transports.

The Model 110 is an all-metal, low-wing monoplane powered by two Pratt & Whitney R-2800 engines developing 2,100 hp each at take-off. It will have a top speed of 322 mph, a cruising speed of 275 mph and a landing speed of 79 mph.

One of the most unusual features of the new aircraft is the provision for passenger enplaning and deplaning by means of a retractable stairway located beneath the tail. At the head of this stairway will be luggage racks and a full height coatroom.

The Model 110 has a span of 91 ft., length of 71 ft., and wing area of 820 sq.

The 12 ft. 6 in. diameter, four bladed propellers will have reversible pitch to provide aerodynamic braking. Fowler type flaps will be used.

Maximum range of 850 miles will be obtainable at 265 mph with a 6,600 lb. payload. Service ceiling is 29,100 ft., and one-engine operational ceiling 16,100 ft. Required CAR runway length for take-off is 2,900 ft. at sea level.

Particular attention in the design of the Model 110 has been paid to passenger comfortization features which will include individually adjustable polaroid windows to reduce glare, spun glass insulation to keep out engine noises, and adjustable headrests for the custom designed seats. Interior arrangements are being planned by Henry Dreyfuss, New York industrial designer, and cabin appointments will be finished in restful colors.

Interned B-17s Cost Sweden More Than \$1

A Stockholm Press dispatch that B-17 Flying Fortresses which landed in Sweden were sold to that country for one dollar each drew some comment from the State Department last fortnight.

State Department sources said that while this country did make available to Sweden some 16 or 17 Flying Fortresses, the one-dollar exchange involved other considerations which remain in security.

Most of the B-17s were cannibalized in order to convert at least three of them into 14-passenger commercial transports to replace civilian planes lost by Sweden in the war.

It was understood that the 16 or 17 bombers which remained in Sweden were a part of the 142 B-17s which were forced down in the neutral country during the war. Remainder of the bombers were returned to the U. S.

Nearly 1400 airmen who landed with the aircraft were able to escape back to American or British-held territory to resume the fight against Germany.

The press dispatch from Stockholm credited Danish Flight Lt. Werner Jungloef, a volunteer in the Royal Air Force who crossed the Atlantic 25 times, as the source of the statement that Sweden had purchased the B-17s for one dollar each.

War Department Cancels Secondary Draft for July

The War Department has cancelled its secondary draft call for July and no secondary call will be issued in the future, the Selective Service System announces. It has instructed local boards that "no registrant who has been placed in Class 1-A, 1-A-O or 4-E because he left employment for which he was deferred without a determination from his local board favorable to such leaving shall be forwarded for induction or for assignment to work of national importance, unless" he is found qualified for general military duty or is under 26 and is "physically fit, acceptable for military service."

Area Governors of AWA Named by President Roddy

Maurice Roddy, president of the Aviation Writers Association, has named, subject to a later vote of confirmation by the membership, the following area governors:

Area 1. Robert B. Sibley, The Boston Trolley, Boston; 2. Russell Newcomb, Simmonds Aerocessories Inc., 10 Rockefeller Plaza, New York; 3. Don Rose, The Evening Bulletin, Philadelphia; 4. Scott Hershey, Aviation News, 1252 National Press Bldg., Washington; 5. William Key, 1636 N.E. First St., Ft. Lauderdale, Fla.; 6. George F. Haddaway, Southern Flight, Dallas; 7. George A. Scheuer, Chicago Sun, Chicago; 8. Sam B. Armstrong, St. Louis Dispatch, St. Louis; 9. Lawrence Black, Western Flying, 304 S. Broadway, Los Angeles; 10. Ed Clarke, Cleveland Press, Cleveland.



Boeing's 'Flying Board of Directors'—The Seattle members of Boeing Airplane Company's "flying board of directors" are shown as they arrived at Wichita's municipal airport June 19 for the annual June meeting at the Boeing-Wichita plants. The group flew from Seattle to Wichita in a B-17 Flying Fortress. Left to right—Darrah Corbet, president of the Smith Cannery Machines Company, Seattle; William M. Allen, general counsel; J. E. Schaefer, Boeing vice president and general manager of the Wichita Division, who was host; Fred P. Laudan, vice president and general manager of the Renton division; Chairman C. L. Egtvedt; Dietrich Schmitz, president of the Washington Mutual Savings Bank, Seattle; Wellwood E. Beall, vice president-engineering; H. E. Bowman, secretary-treasurer and H. O. West, executive vice president.

Air Transport's Potential Weighed at NAA Conference

Cargo, Transport Experts, CAB Chairman on Program

A **SIZE-UP** of the potential use of air transportation, with emphasis on cargo hauling, was voiced by some 20 authorities at the NAA's Air Transport Users' Conference in Washington last fortnight.

Out of a magnitude of data came these points:

- Aircraft advancements may lower operating costs to eight mills per passenger mile and four cents per ton mile for cargo;
- There is need for better knowledge of direct operating and overhead costs and for a suitable accounting system for non-scheduled carriers;
- Mail order houses may use air service for high-priced lines or out-of-stock emergencies, but rates are still too high for volume movements;
- Non-scheduled services have been delayed by public unawareness, lack of suitable equipment and rates higher than the traffic will bear;
- Gas turbines and jets will further improve the helicopter, looking toward its economical use as a local transport.

L. Welch Pogue, chairman of the Civil Aeronautics Board, suggested a national program of development which would include:

All first-class mail to be dispatched by the form of transportation offering quickest delivery; an air parcel post system; reduction of passenger and cargo rates as rapidly as operating costs permit; continuous study by the industry of user requirements and desires to try out "every reasonable new possibility"; authorizations of routes which permit free flow of mail, persons, and cargo between every important pair of points where the traffic justifies, regardless of historic patterns of travel; elimination of all artificial barriers to development, such as gasoline taxes not related to any benefits conferred by the states; vigorous technical development, including a liberally supported research and development program; an attitude constituting a "will to accomplish" on the part of government, industry and the public.

The postwar airplane itself may be more expensive in order to make its cost of operation less expensive, said F. B. Collins, sales manager of Boeing Aircraft Co. He pointed out that since the amortization of the original cost of the equipment is but a small percentage of the operating cost per mile, it becomes possible to save money in operations by spending more money for the purchase of more advanced equipment.

Among the ways in which these economies of operation can be obtained he listed the advanced performance characteristics inherent in the newer airplane designs, designing to decrease the time and cost of maintenance and of ground operations, increase speed of flight which will not only permit the operator to

spread his fixed operation costs over a greater number of miles per hour, but will also allow a reduction in passenger expenses connected with overnight berths and the serving of additional meals.

As a result of advancements in these various directions, he said, transport planes which will operate at as low as 8 mills per passenger mile and 4c per ton mile as against 1.8 to 2.5c per passenger mile and 17c per cargo ton mile for aircraft now in airline use will be available for immediate postwar use.

"Before the mail order industry may utilize air cargo service for volume movements, rates charged for this service must be further reduced," Paul M. Brown general traffic manager of Sears Roebuck & Co., Chicago, told the Conference.

"The addition of a few pennies in cost per item is of tremendous importance," Brown stated and presented a comparison of rates on dry goods and clothing by air freight, rail express and rail freight:

	Air Freight	Rail Express	Rail Freight
From Chicago to New York .....	.15	.043	.017
From Chicago to Boston .....	.177	.044	.017
From Chicago to Dallas .....	.177	.05	.026
From Chicago to Los Angeles .....	.341	.102	.044

Some of the uses which the mail order industry will have for air transport will be for shipments of items in the higher priced lines where samples only are maintained in stores and orders transmitted by wire to a central stock; for repair parts and out-of-stock emergencies; and particularly for moving supplies of seasonable high style lines such as ladies

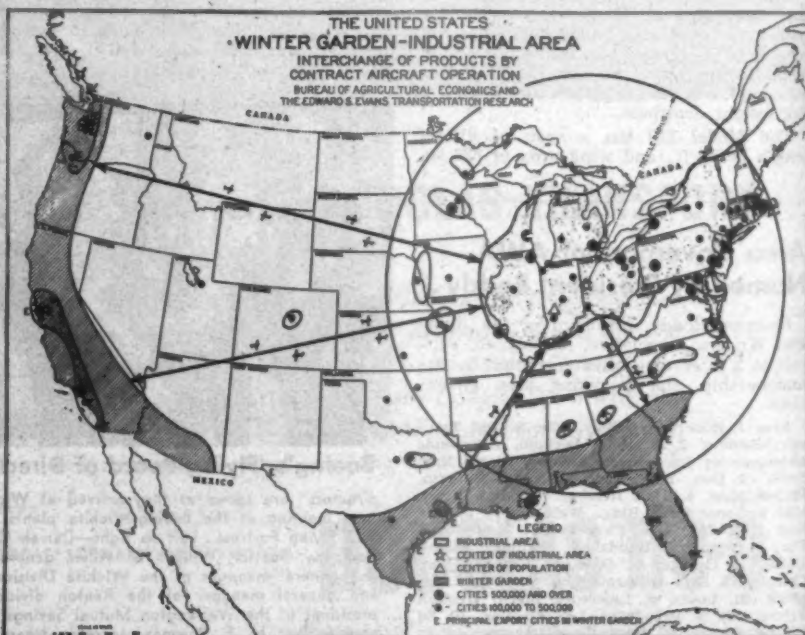
hats and shoes, as well as promotional items.

Brown suggested that air freight schedules should be kept as simple as possible and not complicated and difficult to interpret like present-day rail tariffs; a sliding scale of volume rates should be published to encourage consolidation of small shipments into larger units that may be handled more economically; airport to airport rates should be published since many shippers can provide pick-up and delivery service more cheaply than can the airlines; and packing requirements should be adjusted to meet air transport conditions.

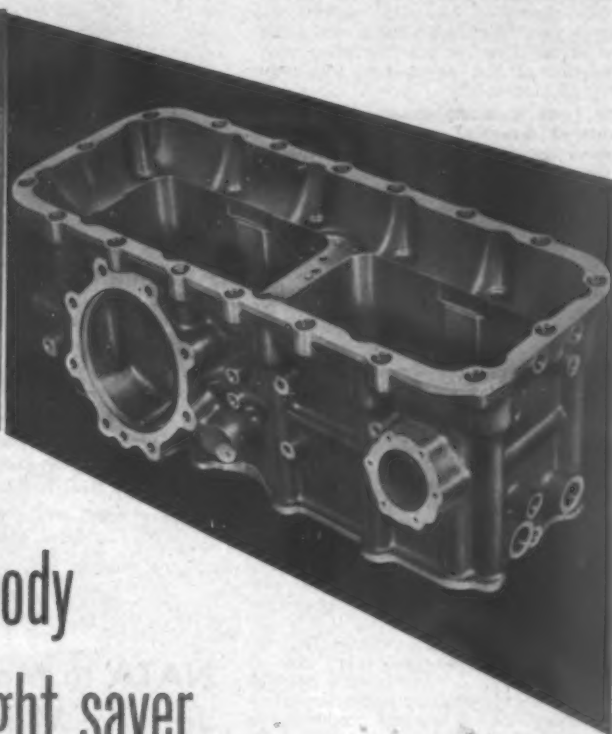
Although transportation has always been one of the most serious problems of fruit and vegetable shippers, Claude N. Palmer of the United Fresh Fruit and Vegetable Association warned the conference that "there will be the stiffest kind of competition for our industry's more than 27,000,000,000 ton-miles of yearly pay load" and that the "aeronautical industry cannot afford to take too much of our industry's patronage for granted." He revealed that the railroad industry has contributed \$100,000 research fund and is building model refrigerator cars to specifications laid down by the Association.

He described his industry as one of the few which not only provides full payloads in south-to-north and west-to-east direction, but also always provides full plane loads. "It has taken us two years to convince many in the aeronautical industry that our industry is not interested in, and could not profit by L.C.I. or so-called 'token' shipments by air."

L. H. Brittin, director, Edward S. Evans Transportation Research, said that there would be three limiting cost factors on which the use of air transport for agricultural products would depend—(1) Rates which airlines can afford to charge and growers can afford to pay; (2) suitable cargo planes operated under conditions which reduce costs to the minimum; (3) an assured system of return hauls of



Lightening "the heart of the engine"



Magnesium carburetor body a real weight saver

The lighter the parts, the lighter the plane!

That's why the Bendix Products Division of the Bendix Aviation Corporation makes aircraft carburetor bodies of *magnesium*—the lightest of all structural metals.

This use of magnesium in "the heart of the engine" is a splendid example of the way leading designers and producers are cooperating to build American planes lighter . . . faster . . . more powerful!

It's another fabrication achievement added to the

many triumphs already won by the aircraft industry. Another triumph for magnesium. Stories of this type are constantly accumulating in the files of the Magnesium Division of The Dow Chemical Company.

The nearest Dow office will be glad to make available to you a wealth of magnesium information . . . fabrication knowledge, facts on magnesium's easy machinability . . . everything you need to adapt magnesium to *your* production. Just ask for it.

MAGNESIUM

THE METAL OF MOTION



MAGNESIUM DIVISION, THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit • St. Louis • Chicago • Houston • San Francisco • Los Angeles • Seattle

manufactured goods so no food-bearing plan flies back empty, thus doubling the rate. (See map Page 30)

R. A. Cooke traffic manager, American Newspaper Publishers' Association, said that the newspaper publishing business believes there is a place for the carriage of newspapers in air cargo service, but it must be implemented by a rate structure adjusted to the transportation characteristics of the newspaper and regularity of movement.

Dr. Lewis Radcliffe director, Deputy Institute of America, pointed out that the general use of air cargo space for shipping of fish will be determined in a large degree by transportation costs and pick up and delivery services available. He said that considering the perishability of fresh fish, if the air transport services will attack the problem of providing satisfactory containers, reasonable rates and adequate pick-up and delivery service, he believed they have a real opportunity of building volume of fish shipments by air.

Joseph Garrido president, Wiggins Airways, said three factors have delayed the development of non-scheduled passenger and cargo service—namely: (1) The public is not aware of the availability of non-scheduled service and therefore has not created the demand; (2) The operator's equipment, not having been designed for passenger and cargo transportation, is not presently adequate as to capacity and range; and (3) Non-scheduled rates are higher than the average passenger or shipper can pay for regular service.

"Even though first costs (of helicopters) today are relatively high due to overall newness of the venture, there is nothing engineering or manufacturing-wise which, with a suitable production of even modest quantities, could not result in an aircraft economically feasible for the air transport users," L. C. Peskin, manager, Contracts Division, Kellett Aircraft Corp. told the conference.

Peskin said size limitations are being overcome with six, eight and ten place transport and cargo carriers in manufacture and that use of gas turbines and jet propulsion will further improve the helicopter.

For commercial purposes, besides the passenger transport services "on about the transport level of taxi or de-luxe bus services," plans are being made to utilize helicopters as feeders between industries and airports, carrying high-value cargo between small communities, between factory branches, from merchandisers to consumers and from factories direct to customers, he said.

Charles J. Roggi, Director of Transport Sales, Fairchild Aircraft Division, outlined for the conference the three major problems facing air cargo operation. 1. the lack of experience in the hauling of air cargo, although ATC and NATS have done "a magnificent job" "the all-important and dominating factor of cost was completely non-existent"; 2. the need for better knowledge of direct operating costs and overhead cost and a suitable accounting system; 3. economic regulation and regulation covering the air worthiness requirements.

Asking for a reappraisal of requirements for equipment used only in cargo operation, Roggi warned that "imposition of air worthiness requirements . . . created originally and specifically for passenger transport aircraft upon cargo



P-80 and Engine—The AAF's new jet plane, the P-80

Shooting Star, developed by Lockheed designers and engineers working closely with the Air Technical Service Command. Latest and fastest of the Army Air Forces' planes, the P-80 reaches speeds in excess of 550 miles per hour. The plane is powered by a new jet propulsion gas turbine engine developed by General Electric, similar to that shown at right, only larger. Service ceiling is above 40,000 feet.



NATA to Move Offices to Washington; John H. Wilson Mentioned as Director

National Aviation Trades Association will move its headquarters from Kansas City to Washington and a directors' meeting will be held in Kansas City Aug. 7 to name an executive director, Leslie H. Bowman, chairman of NATA's Board of Governors, announced.

Bowman said that negotiations were underway with John H. Wilson for the executive director's position. Wilson formerly held that post, resigning last March. He has since been serving as an independent aviation consultant at Lockport, Ill.

NATA's action was prompted by the recent activities of Roscoe Turner, president, and Clarence Mooney, acting executive secretary, who have become em-

broiled in controversies in Congress. Bowman said that Mooney's and Turner's actions were not sanctioned by NATA.

The actions referred to were Turner's endorsement of the McCarran amendment to the All-American Flag Line bill which would have separated domestic from international air transportation and Mooney's exchange of correspondence with Rep. Carl Hinshaw (R., Calif.) in which Mooney attacked Hinshaw's stand on the Federal Aid Airport program. Bowman said there was also dissatisfaction with Mooney's publishing activities. Bowman said that NATA's directors were taking a definite and active hand in laying down policies "which will be followed to the letter" by the prospective executive director. He said there would be no change in policies, but "in the execution of those policies."

All officers, directors and committeemen are expected to attend the Kansas City meeting Aug. 7. Bowman said: "We expect to be able to release at that time other pertinent changes." He did not elaborate on what the changes would be.

transport aircraft may seriously eat into payload capacity. Other problems will be design, development and refinement of cargo aircraft; segregation and specialization and education of consumers and shippers.

Lloyd E. Partain, chairman, Forest Products Division, Periodical Publishers National Committee, prophesied that air shipment of perishable foods will become the major aspect of the industry. "But it will take intensive selling. Advertising, promotion and above all, market research will become important tools in this gigantic sales job." Partain urged that with rates that will permit reasonable consumer costs for added quality and service, farmers can become a very important air transport user.

32% Decrease in Expenditures

Aircraft production schedules, on the basis of reports to the Production Readjustment Committee of the War Production Board, have been cut back from \$3,700,000,000 a month, as of March 1, to a rate which will decline to \$2,500,000,000 a month in the fourth quarter of this year and continue on at that pace into the second quarter of 1946. These cutbacks show a decrease in aircraft production expenditures of 32% as compared with 30% for war production as a whole.



Finish the Fight — with War Bonds

Peacemakers

Peace in the Pacific can be achieved in only one way—by the unconditional surrender of Japan's military masters.

To shorten the road to victory, our leaders foresaw that we must do more than reconquer territory yard by yard and island by island. *We must knock out the enemy's ability to make war.* And to carry out that strategy they chose the Boeing B-29 as our major weapon.

Built, tested and flown into combat under the terrific pressure of global war, the Superfortresses are doing all that was expected of them and more.

They have enabled us to reduce American casualties and save precious months in striking enemy war production, because they are the only aircraft in the world that can cover the vast distances from bases in the Marianas.

In early operations before present island bases were secured, they transported their own supplies over the "Hump" from India into China. They have not only reduced the output of Japan's war industries by the steadily mounting tempo of their bombing but have taken a huge toll of the fighter planes sent against them. And they

have tightened the blockade on enemy ports by sowing mines.

The versatile efficiency of the Superforts reflects Boeing's unparalleled experience in designing and building four-engine aircraft, and it forecasts the same qualities in the great Boeing planes of the future.

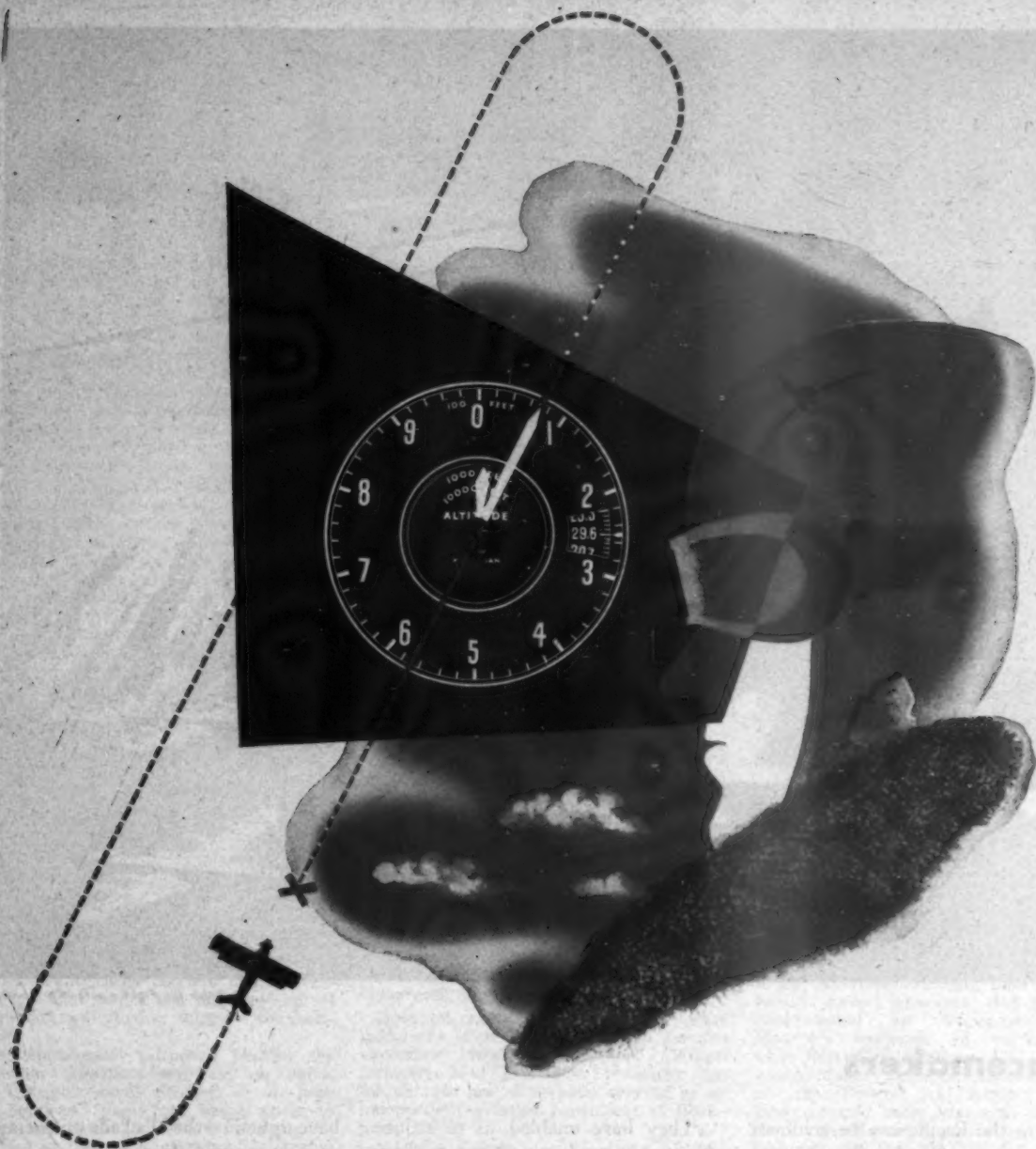
The performance of the B-29 stems directly from Boeing principles of research, design, engineering and manufacture. After victory, as today, you can count on any airplane "Built by Boeing" to lead the way.

DESIGNERS OF THE B-29 SUPERFORTRESS • THE FLYING FORTRESS • THE NEW STRATOCRUISER
THE KAYDET TRAINER • THE STRATOLINER • PAN AMERICAN CLIPPERS

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FROM THE FIRST BLIND FLIGHT in history when "Jimmy" Doolittle took off, made a circuit and returned to his starting point by reference to instruments alone, Kollsman Instruments have played a vital part in almost all history-making flights. Just as the development of the first Sensitive Altimeter made possible that first blind flight, other products of Kollsman's continuing research and development in the field of aircraft instruments have played similarly important roles in aviation history.

KOLLSMAN AIRCRAFT INSTRUMENTS

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Civil Air Transport Being Resumed in Europe

Belgian, Swedish, Swiss Lines Make 1st Flights

By WAYNE W. PARRISH

PARIS—The ban against all civil air transport operations in the Mediterranean and European military theatres agreed upon by Gen. Eisenhower and Air Chief Marshal Sir Arthur Tedder early in 1943 was lifted June 11 and, according to American observers in Europe, this takes on special significance with the dissolution of Supreme Headquarters Allied Expeditionary Forces since it means general resumption of civil transport in Europe.

It has been learned that services resumed to date include SABENA from Congo to Brussels which formerly had to terminate in London with transshipment by Royal Air Force Transport Command and Swedish services three times a week into Paris. The Swiss it is understood, have made flights to Spain and Portugal.

Had not the ban been lifted at the instigation of the State Dept., American observers say there is a strong indication that civil flying would have been retarded pending British and French aircraft construction as both countries appeared to favor a continuance of restrictions until equality of equipment is attained.

Swedish flights to Paris have been on a courier basis as the French have signed only the Interim Agreement and appear to be stalling action on other agreements. While it is obvious that no real amount of transport flying is possible for some time because of the equipment situation and international complications, the recent announcement by the Civil Aeronautics Board of American carriers who have been chosen to fly the North Atlantic will have the effect of speeding actions in Europe, it is believed.

Montreal-to-Prestwick Starts Sept. 1

On September 1, Trans-Canada Air Lines will inaugurate a new civilian transatlantic air service between Dorval Airport, near Montreal, and Prestwick, Scotland. In making the announcement, Canada's Reconstruction Minister Howe said that a daily flight in each direction would be made by 20-passenger aircraft. TCA gained experience on this route on military flights during the war.

Mining Air Services in Ontario

The Canadian government has granted a charter to McKenzie Island Prospectors, Ltd., a new company which, in addition to general development work on mining properties, proposes to operate an air service in the region of Red Lake, Ontario, an important gold producing area. Although existing companies provide connections between Red Lake and outside points, J. R. Mitchell, organizer of the new company, said there was great need of a service based at Red Lake and covering the surrounding territory.

Air Routes in Winnipeg Area

Towns with populations of between three and five thousand are included on projected feeder routes in Saskatchewan and Manitoba, application for which has been made by W. F. Thom of Moose Jaw, Saskatchewan. Daily flights are planned on two routes between Winnipeg and Regina: a northern route with stops at Portage la Prairie, Brandon, Dauphin and Yorkton; and a southern route via Estevan and Weyburn.



Directors of Union Airways—This is the first picture taken of the directors and general manager of Union Airways of New Zealand, Ltd., since the company was formed in 1935. Left to right: C. S. Jarvis, secretary; Sir A. F. Roberts, K.B.E., director; G. R. Ritchie, director; Brigadier N. S. Falls, C.M.G., D.S.O., V.D., chairman of directors; C. G. White, director; J. N. Greenland, director, and F. Maurice Clarke, general manager.

LAN Chile to be Reorganized

The State Railways of Chile, the South American Steamship Co. and the Chilean Development Corporation, all of whom are interested in the Lines Aerea Nacional (LAN Chile), are submitting to the Chilean Congress the following proposals for reorganization of the airline which is at present operated by the government:

1. Participation in LAN Chile by Chilean business enterprises;
2. Restriction of the sale of LAN stock to persons or organizations that are 100% Chilean;
3. Granting of a monopoly on domestic services to LAN;
4. Expansion by LAN into the international field, with establishment of lines to Argentina, Brazil, Bolivia, and Peru as soon as possible.

Brazilian Report on Airlines

The Brazilian Ministry of Aviation reports the activities of the national commercial air transport companies during 1944. The companies flew a total of over 10,000,000 miles carrying the following:

Company	Passengers (number)	Baggage (pounds)	Freight (pounds)	Mail (pounds)
Cruzeiro do Sul	71,331	2,883,015	2,814,660	320,587
Panair do Brasil	68,773	2,444,728	2,502,258	670,543
Vasp	47,661	1,270,638	632,570	176,528
Varig	14,933	405,610	263,343	39,622
NAB	11,055	384,413	228,041	103,924

213,753 7,388,404 6,440,870 1,311,204

LAB 1944 Report

The Bolivian airline, Lloyd Aereo Boliviano (LAB), has reported for 1944 an operating loss of \$190,000 U. S., which was covered by government subsidies of \$233,000 U. S. Route miles increased by 9%, miles flown by 16%, and passenger miles by 34%. Three-eighths of all transportation revenues were received from the carriage of freight; the over-all load factor was 83%. Three Lockheed Lodestars are used.

The extent of routes and volume of operations during the last three years is shown below:

	1942	1943	1944	Percent increase 1944
Route Miles ..	2,715	2,936	3,204	9.1%
Miles Flown ..	304,394	504,667	601,673	16.3%

New Aircraft for TACA

TACA Airways has acquired eight 14-passenger Lockheed Lodestars, which will be used within Central America and on the routes to Mexico City and Miami. The aircraft have been leased from United States

government agencies. The U. S. Surplus Property Board has also allotted one Douglas DC-3 to TACA, bringing total allocations to TACA up to six DC-3s, and two Lockheed Electras. TACA has purchased two other Electras from other sources.

Habana-to-New York

Expreso Aereo Interamericano, S. A., expects to apply for a permit to operate commercial services to the United States under the Chicago aviation agreement, a company spokesman reports. Trial flights between Habana, Miami and New York have already been run. The company hopes to halve current air fares between Habana and Miami.

Channel Islands Air Services

Jersey and Guernsey Airways, Ltd., has resumed air services between the Channel Islands and the United Kingdom, following a five-year suspension that started on June 15, 1940, when the Germans occupied the islands. Two round trips daily are operated for passengers on the route from Croydon to Guernsey and Jersey, in addition to a south-bound freight-only service.

Le Bourget Open Again

The famous peacetime airport of Le Bourget in Paris, which was battered by Allied bombers during the German occupation, is now almost fully repaired and able to handle 1,000 aircraft movements a day. This figure would have seemed fantastic before the war, when only 20 times that number were handled in a year.

One of the busiest airfields of the R. A. F. Transport Command on the Continent, Le Bourget now deals with hundreds of passengers and thousands of pounds of freight and mail every 24 hours. The main buildings, which were ruins only a few months ago, have been largely restored, and the waiting-rooms and restaurants for passengers and air-crews are up to peacetime standards.

Stockholm-to-Paris

Aktiebolaget Aerotransport (ABA), the Swedish airline, is now operating a regular service between Stockholm and Paris with converted Flying Fortresses.

RAFC Operations

June, the first complete month free of hostilities in Europe, saw a great expansion in the Royal Air Force's Transport Command. New staging posts, as far north as Norway and as far east as Prague, were made operational. On the European air routes traffic has been heavier than ever before, with intensive movements of freight, mail, personnel, and ex-prisoners of war.



Details of Only Allied Jet in Action Against Germans Revealed

First details on the jet propelled Gloster Meteor—only Allied jet to see service against the Nazis—have just been received from the British Ministry of Aircraft Production.

The Meteor is declared as a single-seat, low-wing, all-metal monoplane with tri-cycle landing gear powered by two Rolls-Royce Welland or Derwent gas turbine jets located in wing nacelles. It is made up of six major assemblies—fuselage nose; front fuselage with nose wheel; center section embodying the center wing, engine nacelles and main gear; outer wings and ailerons; rear fuselage complete with tail portion; and tail unit consisting of upper fin, upper and lower rudders, stabilizer and two "half elevators."

Because of the jet from the propulsion nozzles, the location of the stabilizer and elevators in relation to the fin is higher than with conventional aircraft, and necessitates splitting the rudder into two parts. Trim tabs are fitted to both elevators and to the lower section of the rudder. The all-metal ailerons are internally mass balanced and fitted with automatic balance tabs. All components are of stressed skin construction.

The landing gear is of lever suspension type, hydraulically operated. The main gear retracts inboard into wells between the nacelles and the fuselage. Upper and lower air brakes and flaps are likewise located in this section. The nose gear retracts rearward into a well between the rudder pedals in the front fuselage. A mechanical downlock indicator for the nosewheel unit is provided in addition to the normal electrical indicators. The stick-type control column has a hinged spade grip and the rudder pedals have parallel action. Trim tabs are operated by normal type hand wheels.

Landing gear, flaps and air brakes are operated by an engine driven hydraulic pump, while a hand pump is provided for emergency use. Armament of the Meteor consists of four 20 mm. Hispano guns. A camera gun is located in the fuselage nose fairing with control incorporated in the gun button, and can be operated without the guns when required.

The Meteor has a span of 43 ft., overall length of 41 ft., height of 13 ft., and wing area of 374 sq. ft. It was first flown in 1943, and used against the flying bombs in 1944.



Three Views of Gloster

At the same time the Ministry of Aircraft Production revealed that another British jet—the De Havilland Vampire—is now in service. The Vampire is described as "the fastest aircraft in service today" and "the first aircraft in the world to fly at more than 500 mph." It is a single-seat fighter powered by a single gas turbine jet drive, and will be used in the Pacific war. All other details are restricted at the present time.

A third British fighter, just removed from the secret list, is the twin-engined De Havilland Hornet which is credited with a top speed of more than 470 mph., and is hailed by the British as the fastest propeller driven aircraft in the world. The Hornet is powered by two Rolls-Royce Merlin engines, and is "smaller, faster and cleaner than the Mosquito." It is said to combine the long range required for the Pacific theatre with single-engine maneuverability.

Employment Opportunities Exist Within PICAO Setup

The Department of State has announced that there will be employment opportunities for a number of qualified personnel in the secretariat of the Provisional International Civil Aviation Organization (PICAO). This organization was provided for in the Interim Agreement on International Civil Aviation which was concluded at the Chicago Air Conference of 1944 and which came into force on June 6, 1945.

While it is still impossible to announce a definite list of available positions on the Secretariat, or the salaries to be paid therefore until the Council has met and taken formal action, it appears that there will be required persons skilled in the several technical specialties of aircraft airworthiness, the qualification and licensing of operating personnel, the facilities and organization of air routes including requirements with respect to airports, air navigation aids, air traffic control, wireless communications and signals, meteorology, aeronautical maps and charts, air navigation notices and other airway publications.

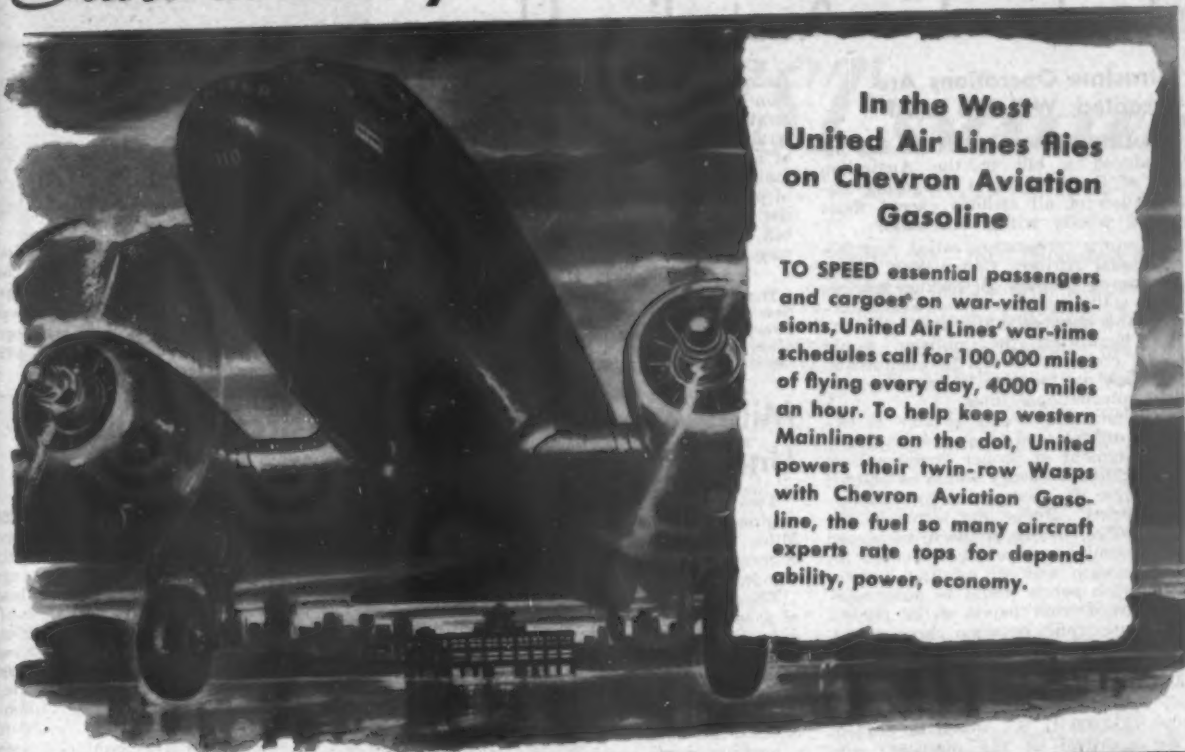
France Gets Goering's Plane

The personal plane of Herman Goering has been presented to the French government. Presentation was made at a formal ceremony on July 10 at Le Bourget airport by the leader of the group that captured the plane when the French entered Salzburg. The plane will be turned over to Parisian health services for use in treating types of illnesses where high altitude proves beneficial.



Vote of Confidence—The Duke of Hamilton, chairman, and D. F. McIntyre, managing director, of Scottish Aviation, Ltd. received "the freedom of the ancient burgh of Prestwick" on June 27 in a ceremony commending them for their "foresight and acumen" in founding Prestwick Airport. The event symbolized public support behind the airline's policies of regulated competition in British commercial air services. Shown at a dinner following the ceremony are, left to right—Duke of Hamilton, Provost R. H. Dunsmore of Prestwick, D. F. McIntyre and Town Clerk Jones of Prestwick.

Stars in the sky.... United Mainliners



In the West United Air Lines flies on Chevron Aviation Gasoline

TO SPEED essential passengers and cargoes on war-vital missions, United Air Lines' war-time schedules call for 100,000 miles of flying every day, 4000 miles an hour. To help keep western Mainliners on the dot, United powers their twin-row Wasps with Chevron Aviation Gasoline, the fuel so many aircraft experts rate tops for dependability, power, economy.



POST-WAR SKIES will see fleets of four- and five-mile-a-minute DC-4's and DC-6's flying for United. Low detonation characteristics of Chevron Aviation Gasoline will permit top power output from their big engines. Economy of Chevron Aviation Gasoline will put more flying hours into their 2880-gallon fuel tanks.



CARGOLINERS, DC-3's converted into flying freight cars, speed shipments from coast-to-coast overnight. All-cargo flights are one of many United innovations in the 17 years it has used Standard aviation products.



"COMFORTIZER" to heat or cool Mainliners before take-off is an example of United's careful attention to passenger comfort and operating efficiency. United Air Lines use of dependable flying fuel like Chevron Aviation Gasoline is another.

Standard and United engineers collaborate on flying fuel tests.



AIRLINE CAPTAINS, test pilots, combat fliers say Chevron Aviation Gasoline brings out the best in any aircraft. Try it in your personal plane—Chevron will make it, too, a star in the sky.



Bill to Nationalize Airlines Introduced in Australian House

Intrastate Operations Are Excepted; Will Aid RAAF

AIR MINISTER DRAKEFORD has introduced a bill in the Australian House of Representatives proposing nationalization of all airlines except those operating wholly within one state.

A statutory corporation called Australian National Airlines Commission would be set up to provide all airline services between states, within commonwealth territories and between states and commonwealth territories; the minister would have the power to direct the commission to establish any service he specifies, including international lines.

The commission would be able to expropriate aircraft and other property subject to payment of proper compensation. The Australian Treasury would be obliged to reimburse the commission for any operating losses. Under the terms of the bill all traffic between points to be served by the commission would be reserved for the commission and all existing licenses between such points would be automatically rendered void except with respect to intrastate traffic between these points. Any person operating in competition with the commission would be liable to a fine of £500 (\$1,600 U. S.).

Any supply contract in excess of £10,000 (\$32,000 U. S.) would be subject to the approval of the minister, who would thus be in a position to dictate the type of aircraft to be used and the country from which it should be obtained.

In introducing the bill, Drakeford admitted that constitutional limitations would prohibit intrastate operations by the commission. He pointed out that

nationalization would facilitate coordination between civil aviation and the strategic requirements of the Royal Australian Air Force with respect to types of aircraft, development of workshops for maintenance and overhaul, and training of personnel. It is not yet known whether the government proposes to act on this bill at the current session of the legislature.

47½ Million to New Zealand

The largest volume of lend-lease aid to New Zealand has been in aircraft. Leo T. Crowley, Foreign Economic Administrator announces. The equipment is valued at \$47,786,000.

Miles Announces 8-Engine Aircraft Project; Unorthodox Libellula Also Revealed

Two new aircraft projects—the eight engined Miles “X” and the unorthodox Miles Libellula—were revealed by Miles Aircraft, Ltd., at a recent exhibit of that company's aircraft and ancillary products.

The “X” is intended as the forerunner of a series of multi-engined airliners and was designed to have a performance higher than anything yet attained. The basic design is adaptable to three versions—a long range version having a cruising speed of 350 mph and a range of 3,450 miles against a 50 mph headwind; a medium range version with a range of 2,000-2,500 miles; and a short range version with an operational range of 1,100 miles.

Basically the “X” is an all-metal monoplane powered by eight Rolls-Royce engines housed completely within the wing. It will have a span of 150 ft.,



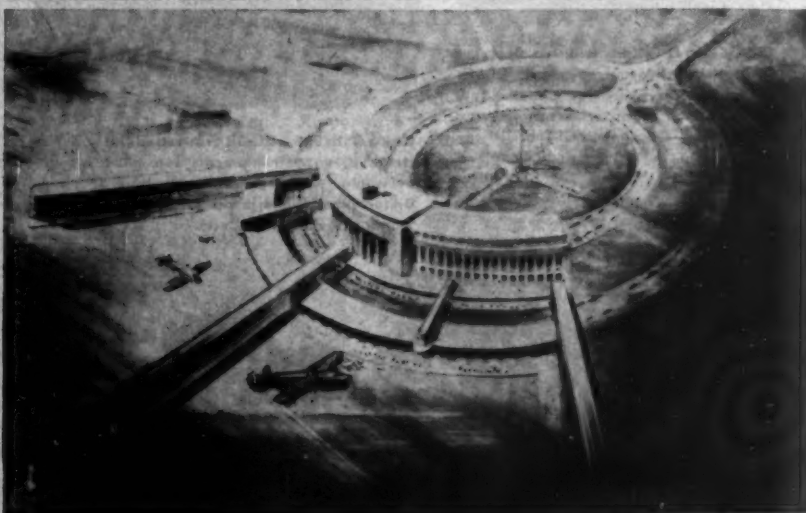
Westland Welkin—This is the first photo to be released of Britain's Welkin, largest of the single-seater fighters, which maintains great power at height by means of a two-stage two speed supercharger. Its speed is 385 mph, and range 1,500 miles.

length of 110 ft., gross wing area of 2,350 sq. ft., gross weight of 165,000 lbs., and cabin volume of 6,000 cu. ft. The aspect ratio is 9.6 and the airfoil will range from an 18 percent to 12 percent laminar flow section. Wing loading at take-off will be 70 lbs./sq. ft., and power loading 8.96 lbs./hp. The “X” is expected to have a maximum speed of 425 mph at 16,000 ft., an initial rate of climb of 1,500 ft./min., and a take-off run of 2,700 ft. unobstructed or 4,050 ft. to clear a 50-ft. obstacle. The “X” will be equipped with Miles patent extensible type flaps, and provision is being made for either an orthodox or tricycle landing gear, a pressurized cabin, and a wide angle view from the pilot's cabin. The manner in which the fuselage will merge into the wing is described as “not only increasing aerodynamic efficiency by reducing interference drag, but also providing greater space for passengers and freight.”

The Libellula is a development of the canard design announced by Miles about a year ago. It has a monoplane wing at either end of the fuselage with two 130 hp. air-cooled, in-line Gypsy Major engines located in the leading edge of the rear wing. The center of gravity falls just aft of amidships between the wings, permitting all variable loads to be concentrated near the cg.

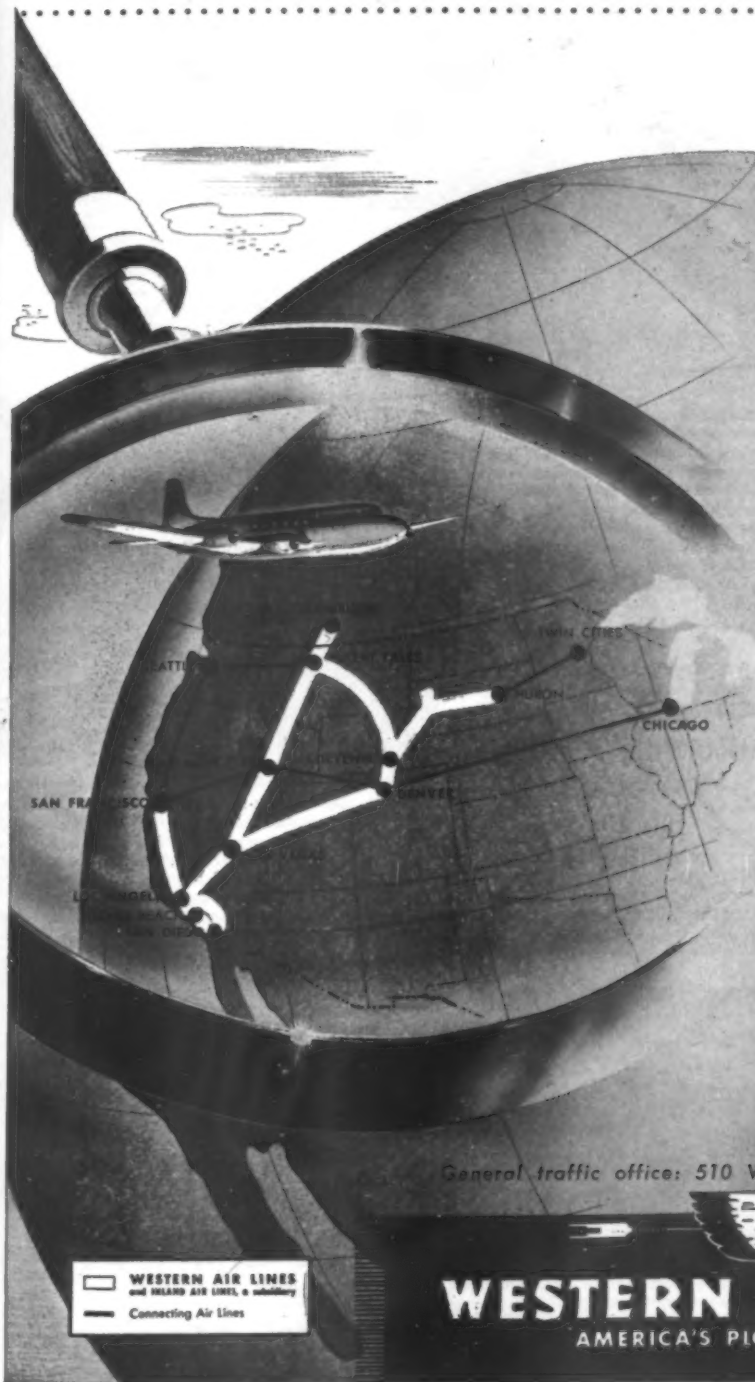
The wings are of wooden construction, with the front wing having a span of 25 ft., and the rear wing a span of 37.5 ft. Overall length is 22.34 ft., and overall height 9.125 ft. The fuselage, likewise of wooden construction, is oval tapering toward the rear wing. The Libellula is equipped with two rudders which operate independently, moving outward in the direction of the turn, only one rudder being used at a time. Landing gear is retractable tricycle type.

The Miles exhibit included additional aircraft types and many related and ancillary products including the “Messenger” undercarriage for lightplanes, the Miles electric actuator, self-locking nuts, a self-aligning plastic bearing, a spherical grinder, the Miles anti-G device, an electric fuel cock, the Miles photo reproducer, a dimpler and press-riveting tool, Miles plastics and wood waste products.



New Airport for Buenos Aires—To be situated 16 miles from the Argentine capital, this new Buenos Aires airport is being planned along United States and British standards. The six projected runways form two equilateral triangles, running parallel to each other with space of nearly 5,000 ft. between them. The air terminal building will have separate facilities for handling internal and international traffic.

MAKING THE GREATER WEST SMALLER



Industry—that sprouted overnight to gargantuan proportions—has made the big West a bigger place, wider in interests, more diversified. Unlimited power and water have opened up vast agricultural and manufacturing resources. The mushrooming population has the look of permanence, guarantees a new stability.

Yet, while it has been growing bigger, the West has been made smaller. For air transportation has bridged the great distances, cut travel and communications time between the scattered centers of populations, made quickly accessible many new areas.

Western Air Lines has led the development of air transportation in the West. It initiated scheduled passenger service in 1926, was the first to use four-engine aircraft. It has thoroughly analyzed the need for air transportation throughout the West. Through new route extensions and through routes applied for, it will expand its services to all the West, will continue to help bring the West closer and closer together.

General traffic office: 510 West 6th Street, Los Angeles 14

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WESTERN AIR LINES
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"When a *GIANT CARGO PLANE* outdives a Jap Zero... *THAT'S NEWS!*"



"Armed only with my trusty typewriter, I was headed over the Hump from India to China to get on-the-spot news. Every time I looked at that 19,000-foot rockpile, I couldn't help thinking, 'Is this trip necessary?' But when they loaded us into a Curtiss Commando, I felt better. That really is a great airplane. I've seen Commandos carry 6 x 6 trucks, bomber engines, and hordes of Chinese troops. And they made it, through weather that even grounded the birds. But here's the pay-off. One of those unarmed Commandos actually outdove a Jap Zero! With the Nip on its tail, that big ship went into a 405-mile-an-hour power dive, and beat that fast fighter to a cloud bank in the nick of time. Believe me, when a giant transport plane can take a high-speed dive like that... *that's news!*"



THAT'S WHY
I WANT TO RIDE
THE AIRLINES THAT

Fly Commando!

MOSCRIP MILLER
War Correspondent in the
China-Burma-India theater

Corsages From the Sky. Fresh flowers and ready-made corsages are among the many perishables that arrive fresher and in greater quantities, when they Fly Commando! The Commando offers 528 cubic feet of cargo space for 3½ tons of luggage and cargo. And in both holds, the temperature is constantly controlled to prevent freezing.



There's Lots of M-m-m in meals aboard a Commando... world's largest, fastest, twin-engine transport. More varied and delicious menus are served from the big sky kitchen up front by two hostesses, or a steward and a hostess. And the tray-top Dutch door makes a perfect, between-meal snack bar.



Check and Double-check. Greater accessibility for flight stop maintenance increases the Commando's over-all speed. For instance, the cowl can be opened quickly and easily in eight panels, without tools, for engine inspection. And it is designed so that several men can work on the engines at once without getting in each other's way.

THE CURTISS

Commando

Today's Great Lifeline
Tomorrow's Great Airliner

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WRIGHT**

FIRST IN FLIGHT

Spectacular China National Has Long List of 'Firsts'

Operations Early in War May Have Saved the Day

By ERIC BRAMLEY

CALCUTTA—China National Aviation Corp., which in its 16-year history has probably done more spectacular flying than any airline in the world, is still playing its part in keeping the lifeline to China open.

Its role in flying supplies over the Hump from India to China has now been overshadowed by the operations of the Army's Air Transport Command, but the initials "CNAC" are still synonymous with aid to the Chinese. In the early days, the course of the war with the Japanese might have been different had it not been for CNAC.

CNAC's list of "firsts" is impressive. It was the first company to fly a trip over the Hump, the first company to fly in bad weather and cancel in good weather, the company that flew the first air mail in China, did the first night flying in China, and the first company to maintain a regular air service over enemy lines.

It is a company that was kicked out of its bases of operations several times by the Japanese, and finally forced into India, where it started again from scratch and built up an operations base that is efficiently run, despite shortages of material, equipment and personnel.

Over 'Hump' Every Day

From its India base, CNAC, which is 55% owned by the Chinese government and 45% by Pan American Airways, sends its Douglas C-47s over the Hump every day. Seldom having more than 30 airplanes in operation, the line flew almost 9,000 round trips in 1944—an average of about one round trip per airplane per day. Roughly 18,000 tons of material were transported to China. ATC, with many times the number of airplanes, carried approximately 50,000 tons in one month, but, considering the size of its fleet, the CNAC contribution is more than creditable. Its airplanes are averaging close to 10 hours of flying per day—as good as some U. S. airlines.

The planes of CNAC are obtained from the U. S. by the Chinese government under lend-lease. The majority of them operate a cargo service in cooperation with the Army, and less than five are used in what might loosely be termed a "commercial" passenger service. Although passengers pay for their trip, only priority business is carried.

CNAC flew its first trip, from Shanghai to Hankow, on Oct. 21, 1929. It was this trip that carried China's first air mail. Operations continued throughout the 30s under tough conditions and with a minimum of aids—no lights, no beacons, no beams, rough fields. As the Japanese invaded and advanced, the company moved its base of operations from Shanghai to Hankow to Chungking to Hongkong and finally into India. While the base was in Hongkong, regular flights were made to Chungking over the Japanese lines. These were the first "bad weather" flights. Maintenance was done in the daytime, and flying was done at night, provided the weather was bad

enough. A bright moonlight night was sufficient reason for cancelling all trips.

Working for CNAC are a number of men who have made aviation history in this part of the world. Chief among them are William L. Bond, vice president of the company, and Capt. Charles L. Sharp, operations manager.

Bond has guided CNAC through 14 of its 16 years. He has filled many roles—planner, diplomat, trouble-shooter, a true friend of China, respected by the Chinese. To him goes much of the credit for CNAC's success.

Capt. "Chuck" Sharp is a mild-mannered Texan from Ft. Worth who has been in China and India for 13 years, beating his way to China after a U. S. airline refused to hire him because he had only 1,000 flying hours. CNAC hired him as a co-pilot, later making him a captain. He became one of the legendary figures in Chinese aviation.

When Hankow was about to fall, and the Japanese were raining bombs on the airfield, Capt. Sharp flew the Generalissimo and Madame Chiang Kai-shek to safety after another pilot had refused to make the trip. On Oct. 10, 1939, he made the first night flight from Hongkong to Chungking, using runways marked with kerosene lanterns. He has flown over Japanese lines innumerable times, has flown planes riddled with bullets.

On Feb. 22, 1939, Capt. Sharp flew the first trip ever made between Kunming and Lashio, in Burma—not over the highest part of the Hump but nevertheless over rugged terrain—in a single-engined Beechcraft.

And on Nov. 22, 1941, he took a DC-3 over the Hump for the first time, from Hongkong to Dinjan, on a survey trip. He smilingly recalls that after the flight he submitted his report—a commercial service over the Hump would never be feasible.



Towers and Balconies—This show-place of white towers, balconies and palms is the new airport terminal at San Jose, Costa Rica, served by Pan American Airways.

Chuck Sharp, with over 11,000 hours in his logbook, doesn't fly much any more. He is responsible for the operations of a company roughly the size of Eastern Air Lines.

Officers and department heads of CNAC are: T. H. Shen, managing director; W. L. Bond, vice president; Gordon B. Tweedy, assistant to the vice president; Capt. C. L. Sharp, operations manager; W. C. McDonald, chief pilot; Z. M. Wong, secretary; M. F. Chin and J. A. Lo, assistant operations managers; M. Garratt, chief engineer; J. D. Hicks, chief of communications; H. L. Woods, district manager in charge of the freight run; C. Y. Chow, manager of finance department, and A. T. C. Kao, business manager.

The CNAC shops in India are as complete as limited materials permit. The company does its own major overhaul of engines and planes, has an instrument shop, propeller shop, radio shop and welding shop. It operates its own radio and weather stations, trading information with the Army. Two Link trainers (numbered after CNAC planes that have been lost) are available for pilot training.

750-Hour Engine Overhaul

The company follows a policy of overhauling its Pratt & Whitney engines every 750 hours. Almost all labor employed is Chinese, and company officials are well satisfied with their work. In training the workers, CNAC is finding that training films produced by the Army Air Forces, Aluminum Company of America, Plomb Tool Co. and other concerns, are invaluable aids.

Pilots hired by the company must have at least 1,000 hours, and receive more training upon their arrival in India. They fly 1,500 hours, are given two months' leave in the U. S., and return to fly 1,500 hours more. Most of them average 100 hours a month flying—it was much more in the early days. The company also has a program for the training of co-pilots from the ground up—men who have never flown before.

Few of the old-time pilots are left—most of the crew members are newcomers, and pilot error is the cause of more accidents than it was in the past. Operations over the Hump are conducted with gross loads 2,500 lbs. over the permissible airline gross in the U. S., and the pilots with the most know-how and caution last the longest.

"There are old pilots and there are bold pilots, but there are no 'old bold' pilots," says a sign in the CNAC briefing room.

The Douglas C-47 has been the backbone of CNAC for a long time and officials praise the airplane and the cooperation they have received from the Douglas company. Some C-47s will remain, but operations are now shifting to the Curtiss C-46, which carries a larger load.

CNAC has its postwar plans, too. Bond is a firm believer in aviation's future in China. He would like to see a network of trunk and feeder routes over which planes would fly 1,500,000 miles a month. He would like to see routes to the Philippines and to Japan. He believes that traffic will be sufficient to make heavy subsidies unnecessary.

It would be ironic indeed if this airline, which has been a thorn in the side of the Japanese longer than they care to remember, should some day fly regular schedules into Tokyo.



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SWITLIK PARACHUTE COMPANY

Dept. B-8

TRENTON 7, NEW JERSEY.

Britain's Avro Tudor Luxury Liner Tested; Noted for Long Range

First postwar British luxury liner to take the air, the Avro Tudor I was successfully test flown for 38 minutes on June 14, according to recent advice from London. Further tests are now being conducted.



Chadwick

The Tudor I was designed and built by A. V. Roe & Co., Ltd., whose chief designer is Roy Chadwick, and first flown by Capt. W. Thorn, company test pilot. It is designed for long range operation,

has exceptionally clean lines, and a design gross weight of nearly 34 long tons.

The pressurized circular fuselage is 10 ft. in diameter and 80 ft. long. Wing span is 120 ft., empennage span 43 ft., and rudder height 18 ft. Power is supplied by four Rolls-Royce Merlin engines in a new circular cowling driving De Havilland constant speed propellers with reverse thrust for aerodynamic braking. Landing gear is of conventional type, fully retractable.

Standard interior arrangements provide lounge chairs which are easily convertible into berths for 12 people, although under alternate arrangements the capacity can be increased to 24 passengers. Instruments on the flight deck include complete radio and radar installations. Both cabin and flight deck are air conditioned and pressurized to an 8,000 ft. level.

The Tudor I has a service ceiling of 25,000 ft., and a maximum speed of 346 mph at 20,000 ft., and a range of 3,700 miles at 295 mph at 20,000 ft. or of 4,680 miles at 230 mph at 20,000 ft. A maximum range of 4,800 miles is possible at 10,000 ft. using an output of 500 hp from each engine.

The Tudor I carries 38½ percent of its design gross weight in disposable load—fuel, oil and payload. Fuel capacity is 3,460 imperial gallons, and baggage and freight capacity is 3,730 lbs.

A larger version of the Tudor to be known as the Tudor II is expected to be flying in two to three months.

A second new commercial transport, the Sandringham, has just been an-

nounced by Short Brothers. Already in production at the company's Rochester works, this is a four engined flying boat which does not differ in primary structure from the civil conversion of the Sunderland III military flying boat. Principal modifications involve secondary structural changes and complete rearrangement of the interior and associated equipment. Both the bow and tail have been redesigned from the military version.

The new modification has a span of 112.8 ft., an overall length of 85.3 ft., and carries a crew of seven. It is powered by four Bristol Pegasus 38 air-cooled radial engines developing 1,030 hp each at take-off. Weight less payload is 45,380



Tudor in Flight

lbs., and payload 7,600 lbs., giving a normal operating weight of 52,980 lbs. Maximum permissible operating weight is 56,000 lbs.

At maximum weight the Sandringham has a cruising speed of 199 mph at 4,750 ft., and a range of 1,578 miles. Take-off speed is 93 mph, and take-off time 56 seconds. The service ceiling is 14,150 ft. and normal rate of climb at sea level with all engines 557 ft./min.

The Sandringham is designed to carry 24 passengers by day and 16 in berths in addition to mail and freight. Passenger accommodation has been increased by the installation of a dining salon seating eight on the upper deck, the seats being convertible to four berths for night travel. Three cabins on the lower deck seat 16 persons, and the chairs can be converted into 12 berths. The lower deck also includes dressing rooms for both sexes, a spacious buffet equipped with a refrigerator and steam oven, and a snack bar.

There are cargo compartments forward and aft for mail and freight. The forward compartment, located between the mooring station and the purser's office, has a 137 cu. ft. capacity, and the aft compartment a capacity of 340 cu. ft.



Avro Tudor I Luxury Liner



What happens when a Navy Liberator pays a visit to a Jap airfield? This photograph gives you a rough idea. Bombing, strafing, reconnaissance work — these big Consolidated Liberators and the keen-eyed men who handle them have stacked up an enviable record in the Pacific area.

Day after day, week in and week out they're on the job hitting the Nips hard, hitting them often. They absorb plenty of punishment, too. *Dependability* is a prime requisite of every part that helps keep these great planes flying and fighting. Because CECO carburetors and fuel pumps are so dependable they have been selected for use on many Liberators and other big warplanes.

We are glad to be associated so closely with the magnificent job our Navy is doing. And we are making every effort to guarantee that CECO carburetors and fuel pumps live up to the high standards of perfection this job demands.

Destroyed Jap-planes litter the runway at Tinian as a result of some "calling cards" left by Navy Liberators. Official U. S. Navy photograph.



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House Group Plans Investigation of All Transport

Lea Resolution Matches Sen. McFarland's Bill

By GERARD B. DOBLEN

A SWEEPING INVESTIGATION of all phases of transportation with the announced purpose of bringing about a co-ordinated government policy is expected to be undertaken this fall by two committees of Congress.

Rep. Clarence F. Lea (D., Calif.) chairman of the House Interstate and Foreign Commerce committee, introduced a committee-approved resolution (H. Res. 318) on July 12, which if adopted by the House, directs the Committee, or any duly authorized subcommittee "to investigate the transportation situation with a view to recommending legislation that will result in a consistent public policy fair to all competing agencies of transport, to the using and investing public, and to labor to the end that the country's commerce may be moved with the greatest possible degree of economy, safety and dispatch."

The Senate has under consideration a similar broad investigation as embodied in the objectives of a bill (S. 556) which was introduced several months ago by Sen. Ernest W. McFarland (D., Ariz.) and which was referred to the Senate Committee on Interstate Commerce.

Sen. Burton K. Wheeler (D., Mont.), chairman of the committee, said it was his personal opinion that a joint investigation by the two Congressional committees is desirable and that the question would be discussed when Congress reconvenes.

Rep. Lea's move is believed to have been inspired by railroad interests. On July 9, Edward Moree, of New York City, vice-president of the Transportation Association of America, appeared before the full committee in an executive session to urge that steps be taken to inaugurate the investigation. The association with its heavily weighted railroad membership, has long been considered a voice of the railroad interests.

During Moree's appearance before the committee, Rep. Alfred L. Bulwinkle (D., N. C.) questioned him at length regarding the alleged railroad dominance of the Transportation Association's affairs.

Some other members of the committee stated later they were somewhat concerned over Chairman Lea's repeated use of the word "integration" in committee discussions regarding the need of such an investigation.

In an accompanying statement, Rep. Lea said: "Failure to provide legislative remedies for the flaws in our national transportation policy, which we all know are there, and failure to focus the thought of leaders in the transportation field upon their own responsibility, apart from legislation, in meeting their postwar problems, can prolong by many years the nation's period of reconversion to peace. Indeed it can throw our economy into chaos."

After citing statistics dealing with the size of the various forms of transportation, Lea said: "To a very large extent, all of these forms of transportation have been developed without proper coordination with each other. Each is constituted on a different economic base, yet each is highly competitive with the others."

Rep. Lea named himself as chairman of the Subcommittee on Transportation along with the following: Robert Croaser (D., Ohio); Alfred L. Bulwinkle (D., N. C.); Lyle H. Boren (D., Okla.); J. Percy Priest (D., Tenn.); Ören Harris (D., Ark.); George G. Sadowski (D., Mich.); Charles A. Wolverton (R., N. J.); Pehr G. Holmes (R., Mass.); B. Carroll Reece (R., Tenn.); Chas. A. Halleck (R., Ind.); and Clarence J. Brown (R., Ohio).

The resolution provides that the subcommittee shall be permitted to hold hearings at such places as it deems necessary, employ such assistants and experts as may be required and shall have the power of subpoena.

Some observers, as well as members of the Committee, saw the move as an attempt to place all transportation agencies under one agency—such as the Interstate Commerce Commission.

"This undoubtedly will be one of the questions to be considered," one member of the committee stated.

In a letter to its membership dated June, 1945, Transportation Association of America said: "Government ownership of transportation in the United States can come about as a result of either (1) a dominant political philosophy in its favor or (2) because of the economic dislocations inherent in the common-carrier industry, brought about by an archaic system of national policy under which equality of regulation is not possible."

"The policy of promoting one type of common carrier against another at public expense—the failure of legislation to treat with the industry as a whole—has created a set of conditions that invite the assaults of those political groups that would use this public service as a device to gain control over all major elements of private enterprise," the letter said.

Asserting that it was not interested in any particular segment of the transportation industry, the Transportation Association of America said it had asked Congress to make a complete and impartial reappraisal of this problem in the light of economic changes of the last 25 years—that it design a set of principles and objectives of regulation based on its findings.

79th Congress Appropriates 8 1/3 Billion for Aeronautics

The first session of the 79th Congress has appropriated or re-appropriated \$8,345,779,978 for civil and military aviation, a compilation by AMERICAN AVIATION reveals.

Army Air Forces is to receive the major portion of the eight billion dollars, Congress having re-appropriated from unexpended balances and recoveries a total of \$5,779,798,085.

The Navy Bureau of Aeronautics is next with \$2,481,050,000, the Civil Aeronautics Authority third with \$48,610,000 and the National Advisory Committee for Aeronautics fourth with \$36,321,893.

These appropriations are provided in the regular military and naval establishment bills, the Department of Commerce, the Executive branch, and two supplemental appropriation bills. All bills have been signed by the President.

Illinois Appropriates 3 Million for Aviation

The Illinois State Legislature has passed several laws favoring aviation, including the creation of a Department of Aeronautics aimed at encouraging and developing aeronautics by assisting financially political subdivisions in the state in the construction, extension and improvement of airports for the purpose of creating a State-wide system of airports.

The legislature appropriated to the department \$3,000,000 with which it may assist municipalities and other political subdivisions of the state, or which it may expend cooperatively with the federal government for the construction of airports. Since this legislation represents the state administration, it is expected Governor Dwight H. Green will sign the bills.

The Chicago Association of Commerce supported the legislation for the State-wide system of airports.

South Carolina Adopts Strong Aviation Policy

The South Carolina Aeronautics Commission has adopted a seven point policy statement regarding the continued development of aviation within the State, especially as it relates to the postwar period.

Since 1935 when the legislature created the Commission, more than \$100,000,000 in public money has been spent within the State for the development of airports and facilities. The Commission predicts that 3,000 privately owned planes will be based in South Carolina within the first five postwar years.

Its statement of general policy follows:

1. An adequate airport system will play an important part in the economic development of our state and supplemented with a strong civil aviation will aid to guarantee our national security.
2. That millions of dollars of public funds have been spent in airport development in South Carolina. Now we should plan a system to serve all the people of the state including private flying, domestic air commerce, and foreign air commerce.
3. That no single airport could survive alone and that each airport added to a system will make all existing airports more valuable to their community.
4. That the cost of maintenance of the present airports to be an obligation of the cities and counties.
5. That those engaged in aviation can only pay an equitable revenue for the use of the airport system.
6. That thousands of men and women now in the armed forces will want to participate in civil aviation on a fair and equal basis.
7. The airport is public property and should be classed as the Main Street of a city, and not leased exclusively in any manner. A business operating on the airport should be operated in the same manner as a business in the city. All airports should have their building area laid out in lots to be leased to the operators on long term leases. The operators should build their own buildings; built to a standard building code, with a minimum on the cost of such buildings which would vary according to the size of the city and location on the airport.

State Aviation Agency Laws Approved by 23 Assemblies

Economic Regulation Bills Reversed in Most States

TWENTY-THREE states had either passed or amended existing laws pertaining to state aviation agencies by mid-July, according to a tabulation made by the National Aeronautic Association.

All but five of the state legislatures had adjourned, four of them being in recess until September or later. These are: Georgia, Massachusetts, Missouri, Ohio and Wisconsin.

Bills dealing with the economic regulation of aviation have met with universal reverses, although three states passed some form of the National Association of Railroad and Utility Commission model bills which provide some degree of economic regulation. The states in which these bills were passed are: Arkansas, Alabama and Vermont. In the case of Vermont, the Act specifically exempts interstate air carriers from the provisions of the law.

Economic regulatory legislation was killed outright in the states of California, Connecticut, Indiana, Maine, Maryland,

Michigan, Minnesota, New Jersey, New Mexico, North Dakota, Oklahoma, Rhode Island, Tennessee, Washington and West Virginia. There was some indication that the bill in California might be revived.

The states which approved either new or amended acts creating state aviation agencies along the lines of the model bills endorsed at the Oklahoma clinic follow: Alabama, Indiana, Illinois, Iowa, Maine, Maryland, Michigan, Minnesota, Montana, Nebraska, New Hampshire, New York, North Carolina, North Dakota, Ohio, Pennsylvania, South Dakota, Tennessee, Texas, Vermont, Washington, West Virginia and Wyoming.

Consideration of McCarran Airport Bill Postponed

The Senate leadership has postponed until next fall consideration of the McCarran Federal Aid Airport bill S. 2 which would authorize the expenditure of \$500,000 as the Federal government's share in the construction of a nation wide airport system.

Sen. Pat McCarran (D., Nev.) tried up until July 20, to get his bill considered but the press of other legislation, including the Bretton Woods agreement, the bill to increase the lending power of the Export-Import bank and the San Francisco charter, prevented him from succeeding.

As the House is already in recess, it means that consideration of all Federal Aid airport legislation will be deferred until sometime in October. As CAA witnesses testified that an interim of as much as 18 months might be expected between the passage of the bill and the actual start of construction, due to the necessity for planning and surveys, this would mean that construction could not start before late spring in 1947.

Los Angeles Legion Hits Amendments to G. I. Bill

American Legion Aviators' Post No. 350 of Los Angeles has announced the adoption of a resolution condemning identical bills now in the Senate and House seeking to amend the G. I. Bill of Rights in a manner which the post contends would "prohibit privately owned technical, vocational and trade schools from participating in the training of our comrades of World War II although these schools have been approved and qualified by the Veterans Administration." Pointing out that "this nation's military aviation development was due primarily to privately owned CAA-certified technical and flying schools," the resolution calls for defeat of House Bill 3119 and Senate Bill 974, which, it asserts, would limit such training to tax-supported institutions.

CAP to Get \$500,000

Civil Air Patrol will receive \$500,000 for the fiscal year ending June 30, 1946 through the War Department Appropriation. CAP's appropriation for the past fiscal year was for \$2,000,000 but a large portion of this fund went for operation of tow-target units which have been discontinued.

House Committee Planning Extended Air Tour Abroad

The Aviation subcommittee of the House Interstate and Foreign Commerce committee expects to make an air tour of the principal countries of Europe late in August for the purpose of studying various problems related to this country's plans of expanding its international air commerce.

Information gained by the subcommittee will form the basis for legislation to be considered later, it was said. The subcommittee will spend most of its time in England, France, and Germany, with side trips planned for Holland and Belgium. A schedule is being arranged which will enable the committee to meet with U. S. Civil Air and Commercial attaches at American embassy offices, together with conferences with aviation officials of foreign countries.

The subcommittee expects to leave around Aug. 27 and those slated to go are: Rep. Alfred L. Bulwinkle (D., N. C.) chairman, Virgil Chapman (D., Ky.), Lyle H. Boren (D., Okla.), Lindley B. Beckworth (D., Texas), J. Percy Priest (D., Tenn.), Richard F. Harless (D., Ariz.), Charles A. Wolvorton (R., N. J.), Charles A. Halleck (R., Ind.), and Evan Howell (R., Ill.).

Rep. Carl Hinshaw (R., Calif.) another member of the subcommittee, is planning to make an independent tour of U. S. Pacific possessions later in the summer.

Seeks Amendments to Lea Federal Aid Airport Bill

Charles E. Norfleet, secretary of the Forsyth County Airport Commission, Inc. of Winston-Salem, N. C., has written Rep. Robert L. Doughton (D., N. C.) urging that the Lea Federal Air Airport bill H.R. 3615 be amended in such a way that either all land is credited as a part of sponsor's contribution at cost or appraised value, whichever is lower, or that sponsors who acquire federal land shall be required to pay for it.

"Either of these provisions would put all sponsors on the same basis, and certainly it is unfair for one sponsor to receive the benefit of federal land free and another to have to buy its land," Norfleet stated.

Need for Expanding Air Services to Towns Cited

Three members of Congress recently placed in the Congressional Record their views regarding the necessity for prompt action on the part of the Civil Aeronautics Board with reference to the need for expanding airline service to the smaller communities of the United States.

The speeches generally were in support of House Concurrent resolution No. 64 offered by Rep. Jennings Randolph (D., W. Va.) which said in part: "That the Congress hereby expresses itself as approving expansion of the air-transportation system in the United States so that it will include not only the larger cities but also, through feeder-line service, the greatest practicable number of smaller cities and towns."

Alabama Assembly Active On Aviation Legislation

The State Legislature of Alabama recently completed action on four aviation bills, one of which requires the citizens of the State to pass on a constitutional amendment which would authorize the State to expend funds on the construction and maintenance of publicly owned airports and navigation facilities. This vote is to be taken at the next general election in November of 1946.

An Act creating a State Department of Aeronautics to be administered by a 7-man State Aeronautics Commission and consisting of the Director of the State Highway Department; the Director of Public Safety, and five other members appointed for staggered terms, also was passed. All principles of the NASAO code are embodied in this Act except that of requiring the registration with the State of Federal certificates of competency and airworthiness.

Another bill, dedicating the revenue from the excise tax on aviation gasoline to the development of aeronautics, was adopted. Of the first \$12,500 of such revenue derived, in any quarter-fiscal-year in any county, the municipalities owning airports in such county will receive 25%; of the second \$12,500, 15%; of any amount over \$25,000 they will receive 5%; the amount each municipality owning an airport in a county will receive quarterly will be on the percentage of its aviation gasoline sales bears to the total sales in the county. All of the balances of this revenue goes to the State Aeronautics Department. This revenue, at both state and local level, may be used only for the acquisition, engineering, construction, improvement and maintenance of airports and other air navigation facilities.

Bellanca Plans 4-Place 'Cruisair' at \$4,500

Initial Prototype May Be Flown This Month

AN enlarged and improved Cruisair carrying four instead of three persons and planned to sell for \$4,500 is the number one item on the postwar program of Bellanca Aircraft Corp. The initial prototype is now under construction and expected to fly in August, and the company hopes to build a few production airplanes in the last quarter of this year, with full flow at a rate of four or five units a day starting early in 1946. H. L. Thompson, Bellanca secretary, told a representative of American Aviation.

Plans for resuming production of the prewar Skyrocket and Air Cruiser in this country are still indefinite, but arrangements already have been completed with Northern Industries in Canada to manufacture these two aircraft under license. Bellanca is also working on the development of completely new postwar models, but no details will be released for at least another year.

Two major improvements in the new Cruisair over the prewar model include widening of the fuselage from 2-3 inches at either side to permit the comfortable seating of two passengers on the rear seat, and the installation of the new Franklin 6AC315 engine. This engine incorporates a new type cylinder head, and the same basic engine in ratings of from 125-155 hp by changing the piston design to take different octane fuels. The standard Cruisair will be equipped with a model turning up 130 hp at 2,350 rpm, and burning 80 octane, as compared to the 117 hp at 2,600 rpm of the prewar engine, but higher horsepower will be available as optional equipment if specified in advance. Bellanca will also offer a new 2-position Sensenich hydraulic propeller as optional equipment, and is considering its inclusion as standard equipment.

Another major refinement will be the substitution of wheel control for the stick control of the prewar model. The retraction unit for the main gear has been modified from an all chain to a torque tube and chain drive, and while this remains a mechanical unit, provision is made for installation of an electric drive



Bellanca Postwar Model

motor if the purchaser desires. A new window frame consisting of two nesting metal frames between which the plexiglas is easily clamped has been designed for the rear windows. A new pilot's window which will permit full opening is also being considered. Several prominent industrial designers are being consulted with respect to interior decoration of the cabin.

Other changes now being considered include the substitution of fabric fuel tanks for the welded aluminum tanks in the prewar model, elimination of the trim tab on the right elevator, addition of an oleo shock absorber for the tail wheel, and increased area for the fixed vertical fins at the ends of the stabilizer, although the exact area of these fins will depend on the results of flight tests. Flight test experience is likewise being awaited to determine the exact cubic content and allowable weight capacity of the baggage compartment behind the rear seat. The standard model will have a second baggage compartment in the right wing, but this space can be utilized for installation of a second 20-gal. fuel tank to double the cruising range. Estimated weight empty for the new Cruisair is 1175 lbs.

as against 1140 lbs. for the prewar model, and estimated gross weight 2100-2150 lbs. as against 1900 lbs.

The postwar Cruisair, like the previous model, will have a fabric covered steel tube fuselage and a wood and plywood wing built around the Bellanca high-lift airfoil. All fixed and movable control surfaces including the flaps will likewise be fabric covered. The flaps are mechanically operated by a lever in the cockpit, and have a full deflection of 43 degrees, which can be applied at intervals of about 5 degrees because of a series of notches on the actuating lever. The landing gear is equipped with hydraulic brakes and parking brakes, and the main gear retracts directly up into wheel wells with about a third of the wheel projecting to provide added safety in the event of a belly landing. The new model will have the triple tail which featured the prewar version and is designed to make it non-spinnable.

Standard instruments will include magnetic compass, air speed indicator, altimeter, tachometer, and oil and fuel pressure and temperature gages. Provision has been made for the installation of a two-way radio and radio compass as optional equipment at extra cost. Starter and generator will be included as standard equipment.

Estimated performance, based on the prewar model, shows the new Cruisair to have a top speed of 169 mph, cruising speed of 145 mph and landing speed of 47 mph with full flap, despite a wing area of only 140 sq. ft. Fuel consumption is estimated at 6½ gph at cruising speed, giving a range of three hours or 435 miles with the standard tank, or 6 hours or 870 miles with the two tank arrangement. Service ceiling is over 14,000 ft., and initial rate of climb 650-700 ft./min.

Distribution, according to Thompson, will be handled through 50-60 regional distributors, with more than one dealer in some of the more populous states. Regional quotas are being based on the belief that one person out of each 100,000 population will have the desire and money to buy a Cruisair.



Taylorcraft Model 15—This is one of the two private aircraft on which Taylorcraft Aviation Corp., Alliance, O., has already begun production for postwar. The Model 15, a four-place family plane, will sell at \$3550 to \$3995, f.o.b. Alliance. The other is the Model BC12, a two-place aircraft, priced to sell at \$2295 f.o.b. Alliance. The latter ship will be similar in construction to the former standard Taylorcraft side-by-side airplane.

Service Field Offers Great Opportunities, Says Balfour

Spartan Official Foresees Big Future for Institutes

THE average individual will find his greatest opportunities in postwar commercial aviation not in manufacturing but in service, Capt. Maxwell W. Balfour, vice president of Spartan Aircraft Co. and director of the Spartan School of Aeronautics, recently predicted to *American Aviation*.

If the expected postwar personal flying boom is to materialize and be developed on a sound and lasting basis, Capt. Balfour said, the customer will have to know that he can get dependable service, conveniently and reasonably, just as he now knows that he can get such service for his automobile.

To set up such a system will require tremendous specialization. Main repair and overhaul stations will have to be provided with the parts, facilities, equipment and skill to perform major overhauls at a reasonable price and in a reasonable length of time, and local dealers and distributors will have to be prepared to handle all work up through 100-hour checks on the grounds so the aircraft won't have to be flown into a major base. And all this will mean thousands of jobs.

What's more, these will be good jobs, paying a living wage, in the opinion of Capt. Balfour. "We operators of service stations are going to have better men to pick from," he said, "and we should pay them and pay them well. The old deal of catch 'em and skin 'em with low paid help has got to disappear. We will have to keep maintenance costs reasonable, and rely on volume for our profits."

Emphasizing the importance of basing service station planning on volume instead of trying to cut down on labor costs, Capt. Balfour pointed out that no matter what some people may claim, it's impossible to do an efficient job without overhead in the form of equipment and facilities. He stressed the importance of keeping service stations good looking, not only because of the sales advantage inherent in attractive surroundings, but because workmen just won't do as good work in a sloppy environment.

While aircraft service operators are going to have to pay more for labor, supervisors and pilots than in the prewar catch-as-catch-can period, Capt. Balfour believes that they are going to get a lot more for their money because of the increased level of skill and knowledge among the people they will hire. Young people, he says, are going to realize the need of education if they are to meet the competition, and the service station operator is going to find that he is going to have to have skilled help whom owners can trust if he is to meet his competition.

An indication of the extent to which these factors are now being considered can be found in the Spartan School of Aeronautics which now has one of the biggest enrollments in its history. As of

July 2 there were 80 students which puts the enrollment on a basis of 600 annually, and inquiries from men in service are now being received at a rate of 100 a day with at least 15% really interested.

Speaking of these prospective military students, Capt. Balfour pointed out that the popular belief that the country will be flooded with skilled aircraftmen is a complete fallacy with the possible exception of pilots, and that even the latter will have to be taught to conserve rather than to kill and destroy, and must learn more about the economic factors involved before they are ready to take their place in civilian aviation. Even more retraining will be necessary for mechanics and servicemen since in the armed services the same man doesn't repair and install. No one realizes this better than the boys, themselves, Capt. Balfour said, and cited one inquiry received from an aviation machinist's mate who had spent two years on a carrier, but wrote that he wouldn't know how to take care of a civilian aircraft.

Further evidence is offered by the Spartan provisional enrollment and priority plan for service men. Last December, when the school was at its lowest ebb, Capt. Balfour got a letter from a service man asking to be placed on the priority list for enrollment following his discharge. Out of this letter the provisional enrollment plan was born under which priorities are granted to members of the armed forces who are seriously interested. There is no obligation involved, no down payment or no contract—the applicants are merely asked to advise Spartan if they change their mind so that someone else may be assigned their priority, and as yet no one has.

Priority No. 1 was issued to the applicant whose letter gave birth to the plan—he, incidentally, is also being given a scholarship in appreciation for creating the idea—and as of July 1 there were 125 active provisional enrollments with 500 more in the processing stage. More than 1,000 are expected before the year is out—they're coming in at a rate of 45 a day—and total capacity of the school is not over 1300.

In connection with the provisional enrollments, Capt. Balfour stated that more than 50% of the applicants are not for the short course, but for a 20-month engineering course. Still others want the longer course, but are not eligible because they lack sufficient educational background. A lot of them are now making up their deficiencies with the United States Armed Forces Institute, and for others, who have had the education but no chance to use it, Spartan is offering a one-quarter academic refresher course.

St. Louis Aviation Week

St. Louis celebrated Aviation Week July 15 to 21, sponsored by the St. Louis Aviation Foundation. Invitations were extended to city officials and planning boards in 55 towns within a radius of 40 miles to visit St. Louis air facilities and to study how small airport layouts can be adapted to their communities.

Link Develops Trainer For Use in Classroom

An elementary Link Trainer, designed for classroom use, is now under development by Link Aviation Devices, Inc. Specifications for the new trainer have already been completed, but production must await the completion of war orders.

The new trainer, Link officials point out, will not be a toy or a gadget, but a device just as flight-like as its predecessor.



Artist's design of the new Elementary Link Trainer.

sors. It will contain all instruments and controls necessary for pre-flight instruction and demonstrational classroom use, and will be so designed that full accessories for advanced Link instruction may be added if desired.

The elementary Link has been developed in response to a large number of requests received by the company relative to the adaptation of its military trainer to classroom use. Basically it is a hoodless simplification of the standard Link instrument trainer, and in this connection it is interesting to note that it was as a hoodless machine which could teach students the fundamentals of flying that the "Aviation Trainer" made its bow at the Link flying school in 1929. More recently the British and Canadians have removed the hoods from standard Link Instrument Trainers and used them experimentally for pre-flight instruction.

'Special' Pilot Certificates Valid for 90 Days, Says CAA

Private pilot certificates issued by the special examiners being appointed by the Civil Aeronautics Administration will be valid for 90 days, CAA has announced. Certificates issued under the program become valid for the normal two year period upon approval by a CAA inspector.

The special examiners are being recruited from among holders of valid commercial pilot's certificates who have been rated as flight instructors for two years.

The designation of non-CAA personnel to test applicants for private pilot's licenses is part of CAA's program preparing for a post-war upswing in private flying.

Raymond B. Maloy, Acting Administrator of Safety Regulation, stated that although "at present there is no backlog of applicants for flight tests" CAA has evidence that the number of applications "will increase more sharply in the near future". The present force of inspectors numbers 140, but through designation of special inspectors, CAA hopes to place at least one qualified examiner at each of the nation's estimated 2000 fix base operations.

Jarvis VJ-21, Two-Place Pusher, Has 'Bicycle Type' Landing Gear

A pusher type propeller and an unorthodox "bicycle-type" landing gear feature the VJ-21, a new two-place lightplane now being developed by Jarvis Manufacturing Co., Glendale, Calif. for the postwar personal aircraft market, and expected to be ready for test flights by Sept. 1.

Powered by a 65 hp engine mounted in a streamlined nacelle on top of the high monoplane wing, the VJ-21 is expected to have a top speed of 135 mph, cruising speed of 110 mph at 70 percent power, landing speed of 40 mph and stalling speed of 35 mph. Other estimated performance data include service ceiling, 16,000 ft.; rate of climb at sea level, 700 ft./min.; cruising range, 400 mi.; take-off run to clear 50 ft. obstacle, 960 ft.; normal landing run, 150 ft.; and landing distance over 50 ft. obstacle, 550 ft.

Most unusual feature of the VJ-21 is its landing gear which consists of a single fixed main wheel located two inches in front of the most forward CG position and partly enclosed in the belly of the fuselage, a three-inch steel nose skid, a steerable and full swivel tail wheel, and two small manually retractable wing wheels which swing down to support the wing for taxiing. According to the designer, Volmer S. Jensen, well known builder and flyer of sailplanes, this single wheel arrangement has been used previously on gliders and makes it practically impossible to ground loop. In addition it eliminates the drag of the conventional fixed gear with long struts.

The VJ-21 will be of all-metal monocoque construction and has a long tapered cantilever wing and a round fuselage. The propellerless nose affords full visibility in all directions and a windshield free of grease and oil with less vibration and engine noise and extra leg room. The cockpit is 42 inches wide, providing comfortable accommodation for two people, and has a low entrance step to provide easy access. The high engine location eliminates prop wash while entering or leaving the aircraft.

Controls are of the normal stick and rudder type, with flaps to permit low

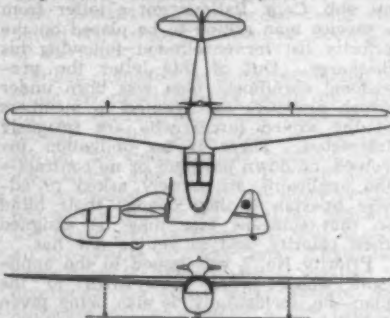
landing speeds. Spoilers are also provided to increase the sink for landing, and eliminate the need of sideslipping and similar maneuvers to lose altitude. The single main landing wheel is provided with a brake which can be locked without creating any tendency toward ground looping and nosing over.

Specifications are as follows: Span, 45 ft.; chord, 5 ft. at root tapering to 2 ft. at tip; airfoil, modified NACA 2418 to 4412; wing area, 158 sq. ft.; wing loading, 8.5 lbs./sq. ft.; aspect ratio, 13:1; overall length, 24 ft.; weight empty, 850 lbs.; design gross weight, 1,350 lbs.; and useful load, 500 lbs.

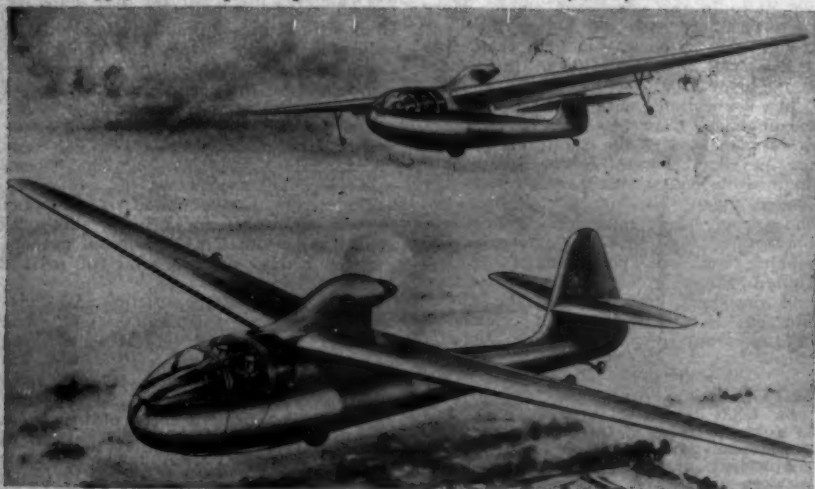
The new aircraft, according to Jensen, has been designed to incorporate characteristics that will make it both a suitable vehicle in which the average person can learn to fly, and a useful aircraft for business transportation and pleasure flying. The design, he points out, further lends itself to seaplane or amphibian adaptation.

Estimated performance figures on the new aircraft are based on the performance of a recent powerless prototype with a larger sailplane wingspan which cruised at a 60-80 mph forward speed.

The price at which the VJ-21 will be offered is still to be determined but is expected to be around \$2,000.



Three view drawings of Jarvis VJ-21 two-place pusher.



Artist's conception of two Jarvis VJ-21s, showing one with wing wheels extended and the other with the auxiliary gear retracted in flight position.

40,000 Bids Received On 5,303 WTS Planes

A promising potential market exists for the sale of low-priced personal planes, the Civil Aeronautics Authority concludes in a study made of its disposal of 5308 surplus lightplanes used in the War Training Service program. About 40,000 bids were received on the planes which were put on the market in 1944, "without benefit of an extensive sales campaign."

Purchase price of the planes was \$13,905,288, including \$1,222,786 spent by CAA for initial repairs and additional equipment. Through rental payments and receipts from sales, a total of \$15,364,968 was realized by Defense Plant Corp., the owners, or a net profit of about \$1,460,000. The planes included 4049 of the lightplane type used in elementary courses, 676 cabin planes used in cross-country and 578 open cockpit planes used in secondary courses.

CAA reports that elementary type aircraft sold for an average of \$835, cross-country for \$2843 and secondary for \$1052. While 90% were sold for under \$2000, only about 70% of the total receipts were realized from these planes. Approximately 63% of the cross country type sold for more than \$2000 while only 19 elementary and 41 secondary sold for more than \$2000.

When the sales price is compared with the OPA ceiling price, CAA found that while very few secondary trainers sold for more than 30% of the ceiling, cross-country aircraft average between 50 and 70% and about 67% of all elementary aircraft sold for more than 50% of the ceiling, indicating that the secondary type aircraft is less marketable. CAA also found a definite preference for side-by-side seats rather than tandem arrangements, except for instruction purposes.

The aircraft were purchased by 1906 individuals and corporations, CAA states that there undoubtedly was a quantity of duplication among the 40,000 bids received, but believes the total is nevertheless significant. Three buyers purchased more than 50 planes, one bought 72, another 100 and the largest number secured by one purchaser was 138. About 78% of the planes sold were bought by purchasers of more than one aircraft. CAA also found a high direct relationship between the number of aircraft sold and both the number of airports and the number of certified pilots in the area. In a less high ratio there was also a direct relationship between the number sold and the number of registered automobiles. Proportionately greater purchases were made from areas where the population was more scattered.

This information together with charts, tables and maps has been prepared in booklet form as "Surplus Airplane Market—an analysis of the CAA Sale of Surplus Planes" and is available from the CAA division of Information and Statistics.

Named Disposal Officer

Frank K. Shallenberger has been appointed disposal liaison officer for aircraft in the Surplus Property Board. Shallenberger, who comes from Harvard Business School, will act as liaison chiefly between the Board and RFC's Surplus Aircraft Division.



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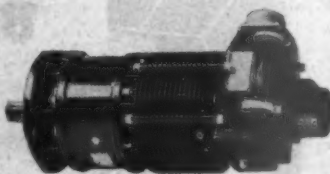
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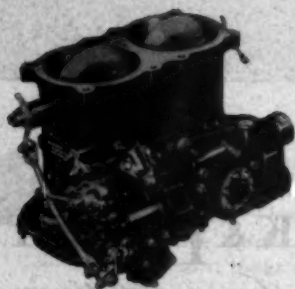


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St. Louis Will Need 38 Landing Areas By 1960

Commerce Chamber Head Foresees 650 Flights

A PICTURE of the airport needs and wants of metropolitan areas was provided in two papers presented at the NAA's Joint Air Transport Users Conference in Washington last fortnight.

George C. Smith, president, St. Louis Chamber of Commerce, said that the St. Louis metropolitan area would require at least 38 airports by 1960 to handle an anticipated 400 trunk-line and 150 feeder transports in and out of the city daily.

He estimated that some 200 local private aircraft would require facilities by 1950 and that this number would be doubled by 1960.

Hart Bowman, airports manager for Dallas, Tex., made specific recommendations for increasing the efficiency of terminal facilities for traffic handling. He declared that airport terminals must not only be attractive, but functional.

"The ease and adequacy with which we handle our air traffic today and tomorrow, the buildings we construct, all the facilities for the use and comfort of the air passenger will be one of the selling points in aviation transportation," he said.

Included among the 38 airports needed in the St. Louis area, Smith said three would be major landing fields, one intermediate airport, nine minor airports, six training fields, two congested-area airports and 17 personal flying fields. This did not include four existing airports and Army and Navy fields.

Smith estimated that plane rentals for 15,000 trained fliers in St. Louis would require the use of 450 planes in 1950, 700 in 1960. He said his survey indicated that potential plane ownership would reach 5000 by 1950 and perhaps 10,000 by 1960.

The present Lambert St. Louis Municipal Airport accounted for revenues of \$81,972 during the fiscal year ended April 9, 1945, he said, compared with expenses of \$45,237. The latter figure did not include any expenses for capital charges, interest on public funds invested nor depreciation.

In addition to metropolitan plans, the State of Missouri has developed a state-wide plan for airstrips, airparks and airports for a network of feeder air lines and for the needs of private fliers.

The Missouri State Highway Commission has been empowered under a new constitutional provision to locate and construct airstrips as a part of the state's transportation system.

Bowman's recommendations for terminal facilities included a covered canopy for passenger weather protection, a public address system, revisions in baggage compartments to facilitate handling, uniform types of ramp equipment, better passenger seating facilities in the terminal and hotel and restaurant space.

Bowman said that Dallas is going ahead with plans for a consolidated ticket counter, with each airline being allocated space. Such an arrangement will cut operating costs and the time involved in ticketing a passenger, he said.

Operations at Lambert St. Louis Airport

Here are some facts and figures on operations at Lambert St. Louis Municipal Airport for the fiscal year ended April 9, 1945:

- Revenues were \$81,972; expenses \$45,237, the latter not including any expenses for capital charges, interest on public funds invested nor depreciation on buildings and equipment.
- The field handled 128,985 passengers; 3,716,850 pounds of air mail, and 1,362,234 pounds of freight and express.
- There were 193,110 take-offs and landings, including 19,797 scheduled flights, 158,312 military, 3869 civil itinerant and 11,132 local or circus flights.
- Planes serviced at the field were furnished with 4,942,022 gallons of gasoline and 45,843 gallons of oil.
- Charges for scheduled operators are based on \$100 each for first two schedules, \$50 each for the next four schedules, and \$25 for each schedule over six. These rates are monthly.
- Ticket offices rent for \$62.50 and other offices for \$25 a month. There is no gas tax at the field.
- An average of 27 civilian planes was stored on the field daily and leased hangar space of 100,000 square feet was occupied by 100% of the time.

Revised Recommendations for Spacing Between Airfields Drawn Up by CAA

To guide community airport planners, the Civil Aeronautics Administration has issued a set of recommended standards for spacing between airfields. The new draft constitutes a revision of previously published tentative specifications, eliminating the most controversial requirement of the earlier set that airports at which instrument operations must be conducted simultaneously will require a separation of 14 miles from center to center.

The revised recommendations contain only a general statement that airports should be located with "sufficient separation from center to center to prevent conflict and overlapping in the holding and approach patterns during simultaneous instrument approaches."

The text of the Recommended Standards for Airport Spacing follows:

(a) The following standards are based upon present knowledge of safety requirements necessary in the light of future anticipated air traffic and the probable methods of controlling such traffic, including possible future developments in air navigation aids.

It is appreciated that deviations from these standards will not only be necessary but will be desirable and entirely feasible where air traffic flow patterns for local areas are or can be estimated or traffic is controlled.

(b) Airports at which instrument operations are to be conducted simultaneously will require sufficient separation from center to center to prevent conflict and overlapping in the holding and approach patterns during simultaneous instrument approaches.

(c) (1) For strictly contact operations airports should be located far enough apart so that their respective contact traffic patterns will not conflict. As a general guide the sizes of the various contact traffic patterns for the different classes of airports may be considered as follows:

- Class 1—1 mile radius
- Class 2—2 mile radius
- Class 3—3 mile radius
- Class 4—4 mile radius

(2) When the location of a contact airport with respect to an instrument airport is based upon minimum distances permissible for contact operations as listed above, it is understood that the operations at the contact airport in the interest of safety may be limited during such times that instrument operations are being conducted at the instrument airport. Such limitations should be worked out by Federal, State, and local aviation officials when establishing the air traffic pattern for the local area.

(d) It is not feasible to consider existing airway radio range facilities in the planning of airports in the urban areas, in view of the prospective changes in the character of air navigation radio aids and the impermanence of the location of the existing airway radio facilities. However, in selecting sites for new airports consideration must be given to existing and proposed instrument landing systems.

Boys Will Be Boys

"Within the past week youngsters between the ages of 10 and 14 tampered with a Stinson Voyager and apparently not knowing how to operate the starter, managed to prop the airplane and get it started, then attempted to take it off. The crazy actions of the airplane attracted attention, and as the owner and airport personnel converged on the airplane the youngsters abandoned it, leaving the motor running, and disappeared into the woods. They were not apprehended."

The above was cited by Sheldon B. Steers, director of the Michigan Department of Aeronautics, in a recent letter to airport managers and officials of the state warning them that "the day is near at hand when this sort of thing may become common."

Nashville Airport Designated

The Tennessee Bureau of Aeronautics announces that the Cornelia Fort combined Airport and Airharbor at Nashville has been officially designated by the Civil Aeronautics Administration and was opened to the public on July 8, offering limited services. The major portion of the field is in good condition and WPA approval has been secured for construction of hangars and repair shops. The Airport will offer complete service as soon as construction is completed with recreational facilities being added at a later date.

AIRPORTS

Wide Range in Costs Of Military Airports Revealed to Congress

The War Dept. has furnished for the record in the hearings on the Lea Federal Aid Airport bill examples of costs of suburban land acquired in connection with the development of military airports. The costs range from \$29 to \$2,335 per acre.

This information was especially requested by Rep. Carl Hinshaw (R., Calif.) who maintains that any Federal grants for the development and improvement of airports should not include a sharing of the costs of acquiring sites and air rights. He contends that a considerable amount of Federal funds would be dissipated on inflated land values and that the actual development program would have to be curtailed to that extent.

The table of site costs involved in the construction of 17 military airports is shown at right.

Schedule of Higher Fees For Idlewild Announced

A schedule of higher landing and service fees designed to help place the new Idlewild Airport on a self-supporting basis by 1954 has been agreed upon by an airlines committee and lease forms are now in the hands of the 12 airlines which expect to use Idlewild when it opens to

Name of airfield	City and State	Distance from city (miles)	Population of city	Leased land (acres)	Purchased land (acres)	Purchased land cost per acre
Memphis Municipal Airport	Memphis, Tenn.	8.0	391,300	680	422	\$280
Chatham Army airfield	Savannah, Ga.	6	150,000	1,805	1,050	20
Johns Island Municipal Airport	Charleston, S. C.	7	95,000	903	379	75
Tri-City Airfield	Saginaw, Mich.	10	83,000	0	872	132
Blumenthal Field	Wilmington, N. C.	3.0	65,000	634	626	247
Great Falls Army airfield	Great Falls, Mont.	4.0	40,000	0	2,642	30
Grand Island airfield	Grand Island, Nebr.	2.5	25,000	1,921	280	120
Mines Field	Los Angeles, Calif.	10.5	1,504,200	543	0	0
Birmingham Army airfield	Birmingham, Ala.	5.5	267,800	432	250	684
Norfolk Army airfield	Norfolk, Va.	5.0	144,300	440	25	732
New Castle Army air base	Wilmington, Del.	5.0	110,000	708	62	1,431
Columbia Army air base	Columbia, S. C.	6.5	62,400	500	1,948	70
Sioux Falls Army airfield	Sioux Falls, S. Dak.	3.0	40,800	1,769	80	132
Davis-Monthan Field	Tucson, Ariz.	5.0	84,000	1,902	855	82
Kirtland Field	Albuquerque, N. Mex.	3.0	35,400	2,460	66	121
Lockheed Air Terminal	Burbank, Calif.	3.5	34,300	311	144	2,335
Morrison Field	West Palm Beach, Fla.	2.0	33,700	864	1,546	220

traffic next fall.

The fees are 25% higher than similar charges at other airports in the country and were agreed upon on the premise that when the \$122,000,000 port is completed, it will be the finest in the country.

The airport will have 1,000 acres of rentable space. The Arcade building will have 90 rentable sections and may be enlarged to 100. The permanent administration building will have 575,000 sq. ft. of rentable space.

Schedule of fees include: \$200 an acre per year for site space, Arcade rental at the rate of \$9,000 per year per gate section, which includes a plane position

150 feet in diameter, \$2.50 a sq. ft. on the ground floor of the Administration Building, \$5 on the lobby floor, \$3 on the second and third floors and \$2 on the fourth floor. Space in the fuel storage area will be at \$200 an acre.

Landing fee charges are \$220 a month for the first three schedules; \$150 a month for the next four schedules; \$75 for the next five and \$40 a month for all other schedules. Charter flights are to be charged \$5 a flight, originating at the airport.

The landing fees may be increased as much as 50 per cent, if, after completion of the twelve runways, no Federal grant has been received. The city expects a Federal Grant of \$23, 488,857.

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THE LOAD ADJUSTER

AAF Has Dropped Two Million Tons of Bombs

1st Million Required 34 Months; 2nd Nine

ARMY AIR FORCES planes have dropped their 2,000,000th ton of bombs on the Axis. It took 34 months to drop the first million tons, but only nine months to unload the second million, AAF reports.

Allowing 12 bombs to a truck, it would take a string of trucks standing bumper to bumper from Boston to San Francisco to carry them. There were some 10,000,000 bombs in all, of varying size.

The 2,000,000th ton was dropped by the Super Fortress "Going Jessie" in the five-way B-29 attack on industrial cities of the Japanese island of Honshu.

The tonnage in June against all Japanese targets was five times the 10,503 tons dropped on them in June, 1944.

The Japanese homeland was hit by the 100,000th ton of bombs on July 4.

Some other AAF figures:

AAF bombers and fighters flew more than 2,300,000 sorties. This means that the equivalent of about 1,800 aircraft have been put into the air each day since Pearl Harbor.

The planes flew a total of more than 19,700,000 hours and used more than 3,100,000,000 gallons of gasoline.

AAF planes have destroyed more than 40,000 enemy aircraft in all theaters and damaged at least 18,000 others. In the

Japanese war alone, AAF planes have sunk a total of more than 2,318,000 tons of shipping.

Spaatz to Direct Attack

Gen. Carl A. Spaatz is directing the strategic air attack on Japan. He will command the 20th Air Force, whose B-29s have been battering Japan's resources for more than a year, and the Eighth Air Force, which is now being redeployed to the Pacific. Maj. Gen. Curtis E. LeMay, who has commanded the 21st Bomber Command, will become commander of the 20th Air Force under Spaatz' overall command. Lt. Gen. Jimmie Doolittle already has been designated to command the Eighth Air Force in the Pacific, under Spaatz. Lt. Gen. Barney M. Giles, who has been deputy commander of the 20th Air Force, will serve as deputy commander under Spaatz.

More Striking Force

Rear Admiral D. C. Ramsey, USN, newly appointed Fifth Fleet Chief of Staff, said recently that a greater number of faster fire-powered planes, with 20 to 30% more striking force, will be used in future operations over the Japanese homeland. Ramsey, who has been Chief of the Navy's Bureau of Aeronautics since August, 1943, assumed his new post July 16.

Pacific Stewardesses

Adopting the airline stewardess idea, Naval Air Transport Service has assigned 10 WAVES as orderlies on the Douglas RSD Skymasters hopping from Oakland to Pearl Harbor.

Corsair Has 'Altitude Advantage'

The new Chance Vought Corsair F4U-4 is credited by the Navy with "an altitude advantage over high-flying land-based Jap aircraft." It is powered by a 2,100-horsepower Pratt & Whitney engine, has tremendous four-bladed propellers which measure 13 feet 2 inches from tip to tip and can carry 2,000 pounds of bombs.

Kenney Tactical Commander

General George C. Kenney has been named top tactical Army air commander in the "around the clock" bombing campaign against the Japanese homeland. Gen. Kenney's advanced headquarters are based on Okinawa.

Precision 'Bombing'

Pinpoint "bombing" has been so perfected by Royal Australian Air Force pilots of Douglas C-47 supply transports that they have even dropped their parachute bundles into jeeps. A recent report from New Guinea tells how a C-47 "Dakota" crew, supplying Australian ground forces on Bougainville, floated down a paracraft into the back seat of a jeep.

First Night Flying in Atlantic

The first night flying from "Baby Flat Top" aircraft carriers was done in the Atlantic last year to combat the German submarine menace, the navy reports. When German Submarine Wolfpacks adopted the tactics of remaining submerged all day and attacking at night, the navy carrier fliers arose to the occasion by going after the U-Boats at night, despite flying hazards in the darkness.

Sounds Like Eisenhower

Field Marshal Gerd von Rundstedt disliked the idea of a separate German air force because of the troubles encountered getting tactical support from the Luftwaffe and

would have preferred the liaison system used by Allied air and ground leaders, he said in a recent interview. "We unfortunately did not have close co-ordination," Von Rundstedt said. "We had to go to the Luftwaffe and plead with them."

Many ATC Hospital Flights

The U. S. Air Transport Command has flown more than 41,000 sick and wounded American soldiers back to the United States from the European theater since January, 1944.

Miami Busy Place

The Air Transport Command has announced that the bulk of the veterans to be flown to this country from the European and other theatres, will be landed at the Miami Army Air Field. Over 300 planes will be operated in and out of Miami on a round the clock schedule.

'Strato-Suit' Developed

The development of a pressurized rubber "strato-suit" which may permit pilots to fly as high as 80,000 ft. has been announced by the Air Technical Service Command, which developed the suit in cooperation with B. F. Goodrich Co.

Arnold Predicts Ruin of Jap Industry

On his first visit to Okinawa, Gen. H. H. Arnold, chief of the AAF, told war correspondents that the island "will give us a start, a very good start" for the full-scale air war on the Japanese homeland. He predicted that Japan would have little industry left by fall.



Shifted by Navy—Vice Admiral Marc A. Mitscher, U. S. N., Commander, First Carrier Task Force, Pacific, has arrived in Washington to relieve Vice Admiral Aubrey W. Fitch as Deputy Chief of Naval Operations for Air. Admiral Fitch becomes superintendent of the Naval Academy at Annapolis.



Resigns Command—Maj. Gen. Claire Chennault has resigned as commander of the U. S. 14th Air Force in China. He has spent eight years fighting the Japanese in China—first as air adviser to Chiang Kai-shek and later as head of the Flying Tigers. He is succeeded by Lt. Gen. George Stratemeyer.

'Ike' Strong for Airborne Troops

"We've only scratched the surface in the use of airborne troops," Gen. Eisenhower said in a recent interview in Washington. He predicted that in the near future full divisions would be carried by air with enough equipment to keep them mobilized and supplied when they land.

• Vice Admiral John H. Towers, U. S. N., who flew the Navy's first airplane, is the new commander of the First Carrier Task Force.

• M. J. Madigan has been named as the Army Air Forces representative on the Aircraft Production Board, replacing Lt. Gen. William Knudsen, who has returned to General Motors Corp.

• Maj. Gen. Lauris Norstad has been named Assistant Chief, Air Staff, Plans, AAF Headquarters, succeeding Maj. Gen. L. S. Kuter, who has been given an unannounced assignment.

• Brig. Gen. C. P. Kane, former commanding general of Fairfield Air Technical Service Command, Patterson Field, O., has assumed command of Atlantic Overseas Air Technical Service Command with headquarters at Newark, N. J.

• Lt. Col. Charles M. Walton, Jr., commanding officer of the famed Vampires, P-38 fighter unit of Brig. Gen. Earl W. Barnes' 13th AAF Fighter Command, has been assigned to duty in the headquarters of the 13th Air Force.

• Maj. Gen. John B. Brooks has been named commander of the 11th Air Force in Alaska and the Aleutian Islands, succeeding Maj. Gen. Davenport Johnson.

• Col. Kenneth H. Bitting, until recently director of personnel for the U. S. Strategic Air Forces in Europe, has been named chief of administration for ATSC.

• Maj. Gen. Kenneth B. Wolfe, chief of engineering and procurement for ATSC, has been ordered overseas for an undisclosed assignment.

• Brig. Gen. Ray G. Harris, formerly in charge of the midwestern district at Wichita, has been assigned to command of the enlarged Western District of the Air Technical Service Command, with headquarters in Los Angeles.

Lt. Cmdr. Coney Heads JRM-1 Flight Tests; Leaves Navy

Lt. Cmdr. William E. Coney, the Navy's first commander of the Martin Mars, and the man who guided the giant



Coney

flying boat through more than 2,600 hours of tests and transport duty, has been temporarily assigned to inactive status in order that he may head up the flight test program on the new JRM-1 Mars flying boats,

the Glenn L. Martin Co. announced today. Cmdr. Coney, a former Eastern Air Lines pilot, was at the controls of the Mars on its record breaking flight to Natal, and commanded the Mars detachment during its tour of transport duty in the Pacific. He and his detachment are credited by both Martin and Navy officials with having proved the utility of the world's largest seaplane, and with having made the Mars the world's first prototype aircraft to perform useful transport service.

Faster P-51 Mustang Goes 'Over 460 mph'



A faster and more deadly P-51 Mustang is ready for action in the Pacific, the Army Air Forces revealed in an announcement made at Inglewood, Cal. where the plane is manufactured by North American Aviation, Inc.

Exact performance figures for the fighter are still military secrets, but the War Department permitted the company to reveal that the new Mustang, designated the P-51H, has a top speed of "over 460 miles an hour" and has a combat range of "over 2,000 miles." Actually, the company reports the range has been increased 37 per cent over the P-51D without adding to the plane's fuel load.

Calling the new model the "world's fastest propeller-driven plane" North American announced a 700-pound reduction in the overall weight of the plane which at the same time is strengthened 10 per cent.

Powered by a Packard-built Rolls-Royce V1650 engine utilizing a fuel injection pump and new four-bladed Aero propeller, the Mustang is described as generating "over 2,000 horse power" for operation "up to 42,000 feet." The rate of climb is 26 per cent faster than that for earlier models.

The plane is equipped with fittings to carry 10 "Zero Rail" rockets under the wings and racks for bombs weighing up to 1,000 pounds, or extra fuel tanks, are mounted under each wing.

Installation of the six .50 calibre wing machine guns has been improved to increase the armament's reliability and to simplify service and maintenance.

The new Mustang version has been in production at North American's Ingle-

wood plant for some time, the manufacturer disclosed with War Department permission.

New Conveyor Belt System Aids in Dropping Supplies

A new conveyor belt system installed in C-47 cargo transports has decreased the time required to drop supplies to ground troops from 40 minutes to a few seconds, according to the Air Technical Service Command. Not only has the new installation speeded the dropping process, but in addition it has made it possible to unload as much as 4,000 lbs. at one time, thus reducing the number of passes over the target area.

The new belt is an endless chain driven conveyor extending from behind the pilot's compartment to the rear door of the aircraft—a distance of 22 ft. The conveyor is driven by a 3.87 hp electric motor deriving power from the aircraft's 24-volt system, and moves at approximately six feet per second. It terminates at a roller bearing platform mounted at the cargo door which launches the containers from the aircraft.

Cotton duck and webbing or fibre board containers holding up to 300 lbs. are loaded two to three high on the belt which is prevented from sinking by means of rollers. Parachutes are attached along with static lines, and as the containers reach the door and are nudged out by means of the conveyor, the static lines open the chutes automatically.



Two-Place Mustang—Designed as the TP-51, this new two seater version of the P-51

Mustang is now in production at the Dallas plant of North American Aviation. It is completely equipped with dual controls and instruments, and will be used to train future Mustang pilots for the Pacific. The new Mustang is reported to be the first modern front line fighter ever to be modified for dual instruction purposes. There have been earlier two-seater "piggy back" versions of the P-51, P-38 Lightning and other fighters, but these have not provided controls or facilities other than cramped seating space for the second occupant.

NAL, UAL Plan Fare Cuts; Monroe Hits AA

CAB Expected to Start General Investigation Soon

By DANIEL S. WENTZ, II

THE passenger fare picture on the domestic airlines assumed larger dimensions during the past fortnight with announcements by National Airlines and United Air Lines of intended fare cuts, coupled with a protest by PCA President C. Bedell Monroe against American Airlines' proposed tariff slash.

All three actions lent weight to the belief that the Civil Aeronautics Board might soon put in motion the machinery it set up early this year in an order to all domestic lines instituting a general investigation of passenger fares and express charges.

Monroe's protest against American's proposed reduction of passenger fares to four and one-half cents per mile was made in letters to CAB Chairman L. Welch Pogue and other Board members. American proposed the cut in connection with a recent request to CAB to fix its mail rate at 45 cents per ton mile. The petition, if granted, would have the effect of equating the line's mail, passenger, and express charges. The 45 cent per ton mile figure is below American's present mail pay rate of 60 cents, but higher than the 32 cent rate tentatively set by CAB in its show cause order to the carrier.

"American's action," Monroe charged, "is obviously designed to circumvent the principles set forth in the Civil Aeronautics Act" under which the Board sets the mail rates received by the airlines. "American Airlines' recent petition to the CAB is tantamount to an avowed effort to abort the administrative and procedural responsibilities of the CAB," Monroe asserted. He also accused American of attempting to "maintain a high subsidy in the form of air mail revenue by bluntly proposing that a substantial air mail subsidy be continued" while distorting its intentions "under the guise of volunteering passenger fare reductions for the public during a period of abnormal passenger traffic development caused by wartime conditions."

The real root of Monroe's protest, however, lay in the inescapable fact that fare reductions proposed by a large carrier have an almost inevitable impact upon smaller carriers, who are usually obliged to make similar reductions at least on competitive routes.

"A transcontinental carrier in setting rates," Monroe asserted, "superimposes such rates upon intermediate carriers because of competition, irrespective of the economic impact upon or stability of the smaller carriers." Such a move, he claimed, might seriously disrupt "the basic economy of other competitive carriers . . . directly necessitating additional government subsidy."

"Transportation history is replete with instances where monopolistic control was brought about through the general imposition of a rate structure upon all other carriers predicted upon the peculiar and favorable economic structure and territorial control enjoyed by another carrier," Monroe stated.



C-39 Airfreighter—This aircraft, owned by Consolidated-Vultee Aircraft Corp., is being operated experimentally by American Airlines for research in moving large quantities of perishables by air. American recently transported 18,500 pounds of fresh fruits and vegetables for Ralph E. Myers, Salinas, Calif., produce operator, from the West Coast to Cleveland. The Airfreighter returned from the East Coast with a load of heavy goods, including kitchen ranges. American has contracted to move from 40,000 to 60,000 pounds of produce weekly for Myers.

The letter requested a complete investigation and hearing open to all interested parties before American be permitted to reduce its passenger fares. The proposed reduction, if approved by CAB, is to take effect August 15. Monroe added that PCA has long maintained that fare reductions were the only means whereby the full potential of air transportation can be realized, but asked that such rates should be set by CAB in order to maintain a proper competitive balance in the industry.

A second transcontinental carrier, United Air Lines, announced in mid-month that it planned a four percent reduction in fares, effective probably Sept. 1. W. A. Patterson, President of the company, said the cut would bring United's total basic fare reductions since Pearl Harbor to 24 percent.

The new reduction will be made for one way fares, bringing them slightly under four and one-half cents per mile, Patterson said. Round trip, circle trip and other discounts are to be eliminated.

Another side of the matter, however, was presented by National Airlines, which announced that it planned to file a new passenger tariff reducing fares seven and one-half percent over its entire system. The competitive effect of such reductions would, of course, bear most heavily upon Eastern Air Lines, reversing the situation of which Monroe complained.

CAB, faced with the necessity for solving the problem, must decide the admittedly tough question of whether it will pass on the benefits accruing from the war-time airline traffic boom to passengers, through permitting fare reductions, or to the Government, through lowering mail pay rates. The Board has long believed that airline fares must come down if the industry is to achieve its fullest usefulness to a majority of travelers. On the other hand, CAB is required to keep mail rates on a compensatory level wherever possible.

With regard to American's proposition, it is believed that CAB will not accept the 45 cent rate proposed by the carrier and permit the fare cut asked, but will continue the mail rate case opened through its show cause order of last December.

Carlene Roberts Given Promotion by American

Carlene Roberts has been named Assistant Vice President of American



Roberts

Airlines. At 31, she is the youngest woman ever to be elected to such a position in the air transport industry. Joining American in 1938 as a secretary to an officer of the company, Miss Roberts subsequently organized the transfer of personnel and general head-

quarters of American from Chicago to LaGuardia Field. In January of 1942 she was appointed Assistant to the Vice President. She will continue to make her headquarters in Washington where she has represented the company for the past three years.

MCA Asks Dismissal of EAL Proposal in Docket 1067

Mid-Continent Airlines has filed a motion with CAB asking dismissal of Eastern's proposal in Docket No. 1067 on the grounds that this amendment violates Sec. 238.1 d(3) of the Board's Economic Regulation which requires that an application for a certificate of public convenience and necessity contain adequate identification of each route for which a certificate is desired.

The petition objected to that portion of Eastern's application which asked authorization to serve "any and all points along said proposed route, and any points north or west of Kansas City or South or East of Memphis" that the Board finds necessary.

Colonial Adds 2 to Directorate

Colonial Airlines, Inc., announced the election as directors of Carl O. Hoffmann, corporation lawyer and a director of the Continental Bank and Trust Co. of New York, and William M. Boyle, Jr., attorney, of Washington, D. C.

United Gets Examiners' OK for California-Hawaii

Competition With PAA Specified in Report

FOLLOWING CLOSELY the emphatic endorsement of regulated competition made by the Civil Aeronautics Board in the North Atlantic decision, CAB Examiners Thomas L. Wrenn and Lawrence J. Koster last fortnight issued a report in the Hawaiian case recommending that United Air Lines be certificated for a California-Hawaii route directly competitive with that segment of Pan American's trans-Pacific service.

United was selected over five other applicants—Hawaiian Airlines, Ltd., Western Air Lines, Matson Navigation Co., the Ryan School of Aeronautics, and Northwest Airlines—largely because its extensive domestic route system and previous experience in scheduled trans-oceanic operations better fitted it to compete with Pan American on more nearly equal terms.

The report quoted CAB's North Atlantic decision to support the contention that the Government's established policy in international and overseas air transport required competition on routes of suffi-

cient traffic density to support two or more carriers.

The examiners pointed out that award of an Hawaiian route to United "would in part restore a competitive balance among United, TWA, and American". The latter both received international route authorizations in the North Atlantic case, TWA through a direct route grant, and American through permission to acquire American Export Airlines which was granted international routes.

In rebutting Pan American Airways' contention that United, or any other domestic carrier certificated to Hawaii would, through its domestic system, possess heavy traffic-generating advantages over Pan Am, the examiners asserted that "United's transcontinental competitors will probably tend to favor Pan American in routing Hawaiian passengers originating on their systems."

Proposals to link the Pacific Northwest with Hawaii by air, advanced in the applications of Matson, and Northwest, were rejected on the ground that the greater existing community of interest lay between Hawaii and California. The examiners found that the traffic potential of the northern route was not favorable

Pick-Up in Shangri-La

The glider pick-up equipment by which Shangri-La air crash survivors and their rescuers were snatched to safety from the "hidden valley" in New Guinea was designed and manufactured for the Army Air Force by All American Aviation. Except for its size, the air pick-up apparatus by which the rescue was effected is the same that All American operates daily on its commercial lines.

at the present time. The California gateway, they stated, "offers the shortest routing to the populous centers of the east and therefore will continue as a gateway used by most of the traffic between the Mainland and Hawaii."

In disapproving the application of the Matson Navigation Co., operators of a large fleet of freight and passenger steamships in the Pacific, the examiners held that because of its dominant position in surface travel and its extensive connections and interests both on the Mainland and in Hawaii, Matson would possess a heavy competitive advantage over the presently certificated carrier, Pan American.

While the examiners praised the work Hawaiian Airlines, Ltd., had done in developing intra-island air service, they concluded that giving Hawaiian a 2,400 mile overwater route to California might place it at a competitive disadvantage with Pan American. Such a route, they stated, would "give it two operations and might tax its organization and management to the extent that they would be unable to devote the attention given in the past to the conduct of the needed local service in the Islands."

Ryan School of Aeronautics application was disallowed on the ground that as a wholly new carrier, without sales organization and traffic sources in the United States, it might not be able to offer the competition required.

In presenting its case during hearings on the Hawaiian route, United proposed an operating pattern of two daily round trip schedules with DC-6 aircraft, operating on a double triangle pattern between Honolulu and the domestic terminals of Los Angeles and San Francisco. W. A. Patterson, United's president, testified that pending delivery of the DC-6, the route might be placed in operation initially with DC-4s, similar to the C-54s it has been operating for the Army Air Transport Command under its trans-Pacific contract. These would be replaced with the DC-6 after the latter had been tested in domestic service.

United's witnesses estimated that in the first postwar year, the route would develop 40,892 passengers, which it expected to divide evenly with Pan American.

Additional capital investment required to open the service was estimated at \$2,697,000, the major part of which represents the purchase price of four DC-6s. Total operating revenues for the first year were estimated at \$2,790,378 against expenses of \$2,567,069, leaving a net operating income of \$214,309.

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FORT WORTH, Texas
JACKSON, Miss.
KNOXVILLE, Tenn.
LEXINGTON, Ky.
MERIDIAN, Miss.
MONROE, La.
NEW ORLEANS, La.
SAVANNAH, Ga.
SHREVEPORT, La.
TYLER, Texas



Over a century ago, an Englishman named William Samuel Henson proposed to fly commercially between England and China. His model airship (pictured here after a model in the Smithsonian Institution) prophesied the pusher-type engine and the single wing. Henson believed wrongly that by slanting the wing upward enough air would be forced under the wing to support the machine

THE FIRST MONOPLANE (IN 1842)

was designed with high hopes but little Lift

IN FLIGHT, an airplane encounters two forces of air: *Lift* that comes from air passing around the wing and *Drag*, resistance of air to the plane's movement. How man flies is determined by the ratio of Lift over Drag.

Many of the "firsts" at Northrop have been steps to reduce Drag or to increase Lift. In Drag-reduction, you find Northrop pioneering the streamlined monocoque fuselage (1927),

wing fillets (1929), the all-metal, stressed-skin monoplane (1930). And heliarc welding of magnesium (1940) which promises still lighter, smoother aircraft construction.

On the side of Lift are Northrop's development of split flaps (1932), retractable ailerons (1941) and the *Flying Wing*. The first Northrop "Wing," free of conventional fuselage, flew in 1928. Later versions have

housed everything inside the wing, eliminated all tail assembly.

The battle of Lift versus Drag will continue into peacetime. In fact we at Northrop are set now to create both more efficient propulsion and planes of still more advanced design. Planes to fly man higher, faster, farther and on less fuel than ever before.

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THE ADMINISTRATION BUILDING AT JACKSONVILLE MUNICIPAL AIRPORT No. 1. SHOWING

THREE NAVY LIBERATOR PATROL-BOMBERS FLYING OVER THE TOWER IN FORMATION.

Report on West Coast Case Encourages Feeder Planners

Southwest Airways, Zimmerly Recommended by Examiner

PROSPERATIVE OPERATORS of feeder-airlines will find additional encouragement as to their prospects for obtaining Civil Aeronautics Board certificates in a report on the West Coast case (Docket 250 et al.) issued last fortnight by CAB Examiner F. Merritt Ruhlen.

The report recommended that the Board certificate Southwest Airways Co. for a combination passenger and pick-up feeder system extending the length of the West Coast. Albert L. Zimmerly, who will do business as Empire Airlines if certificated, was also recommended for a conventional type feeder system in Washington, Idaho and Oregon.

In addition the report suggested that the following authorizations be granted to existing carriers:

That American's route 4 be extended from Los Angeles to San Francisco, and that the carrier be authorized to carry local passengers between San Diego and Los Angeles subject to the restriction that San Diego, San Francisco and Oakland be served only on flights originating or terminating at El Paso or points east thereof, and that San Diego shall not be served on flights serving either San Francisco or Oakland.

That Western be certificated for a three year experimental period to provide local service to Santa Ana, Pomona-Ontario, and Oceanside, Calif., as intermediate points on route 13.

That United be authorized to serve Taft, Wasco-Delano, Porterville, Madera, Calif., and Bend, Ore., as intermediate points on route 11, and The Dalles, Ore., as a point on route 1, all for a temporary period of three years.

That United be authorized to add Ogden, Utah, as an intermediate point on route 1, and to operate non-stop between Pendleton, Ore., and Seattle, both on a permanent basis.

That Northwest be permanently authorized to fly non-stop between Portland and Butte, Mont.

Certificates for both feeder systems were recommended by Examiner Ruhlen to be valid for three years. Because both are new carriers and will have considerable preliminary work to complete before CAA Air Carrier Operating Certificates can be issued to them. Ruhlen suggested that the certificates of convenience and necessity become effective for the three-year period one year after the Board's final decision in the case, or six months after CAB has notified the carriers that the national defense no longer requires that inauguration of service over their routes be delayed.

Southwest Airways Co., the applicant in this proceeding, and its associated companies, Southwest Airways, Inc., and Southwest Aircraft Corp., have accumulated extensive aeronautical experience in

their past operations, fitting the company, in the examiner's opinion, to undertake the extensive feederline operation recommended.

Southwest Airways, Inc., has operated the well known pilot training schools at Sky Harbor, Phoenix, Ariz.; Thunderbird Field, Glendale, Ariz.; and Thunderbird II, Scottsdale, Ariz. To undertake training Royal Air Force cadets at Falcon Field, Mesa, Ariz., under a British Contract, Southwest Airways Co. was formed.

Southwest Aircraft Corp. was formed to operate a maintenance base and subdepot for the Army's Air Service Command, repairing and overhauling engines and equipment. The company also operated for 20 months a cargo and mail line serving Army bases on the West Coast.

All three organizations will be merged as Southwest Airways Co. to operate the recommended feeder service. Ruhlen suggested that any certificate granted Southwest take effect only after the consolidation is completed.

Ruhlen pointed out that certification of Southwest would provide an opportunity to test in civilian practice the combination passenger and pick-up operations developed and successfully used by the Army. At hearings on the case, Southwest's witnesses testified that although aircraft equipped for such combination service are not now available, Lockheed has a plane of this type under construction. They also believe that presently available equipment may satisfactorily be converted into a combination passenger-pick-up plane.

To prevent Southwest from competing for long haul traffic with established carriers, the examiner recommended that any certificate issued to it contain re-

strictions requiring that stops be scheduled to certain numbers of intermediate points on all flights.

Albert L. Zimmerly, a fixed base operator of Lewiston, Idaho, has been engaged in pilot training, charter flying, and aircraft repair work. To obtain information as to the feasibility of local service, Zimmerly has operated an intra-state service in Idaho since June 12, 1944. The operation resulted in small losses, chiefly due to the limited passenger capacity of the aircraft used, but the results have convinced Zimmerly that feeder service holds good possibilities.

The examiner rejected applications by TWA; Coast Aviation Corp.; Los Angeles Airways; Nevada Pacific Airlines, Inc.; West Coast Airlines, Inc.; and the Ryan School of Aeronautics. Also disapproved were parts of the applications of Western Airlines and Inland Airlines; United; and Northwest; Ruhlen recommended that the applications of Roy F. Owen Co. and Western Washington Airways be withdrawn from the proceeding and reasigned for hearing at a later date. Personnel of both companies are in military service and were unable to present their cases at the time of hearing.

Routes recommended for Southwest Airways are:

1. Between the terminal points Seattle and Port Angeles, Wash., via the intermediate points Bremerton, Port Townsend, and Sequim, Wash.;

2. Between the terminal point Seattle and Bellingham, Wash., via the intermediate points Kirkland*, Snohomish*, Everett, Arlington*, Mt. Vernon, and Anacortes, Wash.;

3. Between the terminal points Seattle, Wash., and Portland, Ore., via the intermediate points Kent*, Auburn*, Puyallup*, Tacoma, Olympia, Chehalis, McCleary*, Elma*, Montesano*, Aberdeen, Raymond, and Ilwaco, Wash., Astoria, Ore., Kelso, Wash., and St. Helens*, Ore.;

4. Between the terminal points Portland, Ore., and San Francisco, Calif., via the intermediate points Hillsboro*, Forest Grove*, Oregon City, Newberg*, McMinnville, Woodburn*, Silverton*, Salem, Dallas, Independence*, Albany, Corvallis, Junction City*, Eugene, Cottage Grove, Reedsport*, Marshfield, North Bend, Roseburg, Grants Pass, Medford, Ashland, and Klamath Falls, Ore., Yreka*, Weed*, Dunsmuir, Eureka*, Fortuna*, Scotia*, Redding, Red Bluff, Corning*, Chico, Oroville, Fort Bragg, Ukiah, Marysville, Roseville, Sacramento, Woodland, Healdsburg*, Santa Rosa, Napa, Petaluma, Vallejo, San Rafael, Mill Valley*, Martinez, and Oakland, Calif.;

5. Between the terminal points San Francisco and Los Angeles, Calif., via the intermediate points Redwood City*, Palo Alto, Mountain View, Santa Clara, San Jose, Los Gatos*, Santa Cruz, Watsonville, Gilroy, Hollister, Salinas, Monterey, Gonzales*, King City, Paso Robles, Atascadero*, San Luis Obispo, Santa Maria, Lompoc, Santa Barbara, Ventura, Oxnard, Santa Paula, and Fillmore*, Calif.;

* Cities marked with an asterisk shall be provided with pick-up service only.

The Zimmerly Route (Empire Airlines) are:

1. Between the terminal points Spokane, Wash., and Reno, Nev., (a) via the intermediate points Coeur d'Alene, Idaho, Colfax, Wash., Moscow and Lewiston, Idaho, Walla Walla, Wash., Pendleton, La Grande, Baker and Ontario, Ore., Nampa and Boise, Idaho, and Winnemucca, Nev., and (b) via the intermediate points Lewiston and Boise, Idaho.

2. Between the terminal points Boise and Idaho Falls, Idaho, via the intermediate points Gooding, Twin Falls, Burley and Pocatello, Idaho.

3. Between the terminal points Walla Walla and Wenatchee, Wash., via the intermediate points Pasco, Sunnyside, Toppenish, Yakima, and Ellensburg, Wash.



United's Two Pair—United Air Lines has two pair of identical twins on its roster—Pilots Marion E. and Marvin L. Barger, Mrs. Lucille Gresik (Reservations) and Miss Isabel Chicoine (Accounting). The Bangers fly the Chicago-Denver-Cheyenne section of the airline's coast-to-coast route. (No left-to-right with this photo; we don't know which is which!)

Contract Firm With 'Flying Tiger' Personnel Buys 14 Budds; To Start Cargo Service

National Skyway Freight Corp., of Los Angeles, last fortnight purchased 14 Budd Conestogas from the Surplus Property Board and announced that it would soon begin a non-scheduled contract cargo service.

Personnel of the company is made up almost entirely of former pilots and maintenance men with the "Flying Tigers" (AVG). Robert W. Prescott, former AVG pilot, heads the company as president.

Prescott said that his company was in the process of negotiating contracts for the service and that seven or eight of the Conestogas would be placed in service at the start. The Navy declared the aircraft surplus to SPB.

Two of the aircraft involved in the purchase are under lease to Aerovias Azteca, S. A., a Mexican airline with whom Prescott was associated for two or three months.

Prescott said there was no direct association between National Skyway and Aerovias Azteca, although the two Conestogas will probably remain under lease to the Mexican company until they are recalled for service in the U. S. The companies have some common stock holders.

Purchase price for the 14 aircraft was \$401,000. Prescott said 25% was paid in cash, with the balance due in one year. Financial control of the company will be retained by the operations personnel with additional investments from private sources. No public stock offering will be made.

Prescott said first of the aircraft had been certificated by CAA for commercial cargo service. Although the company will concentrate on hauling freight in this country, it is equipped to fly anywhere in this hemisphere.

Other AVG pilots associated with the company are Robert Hedman, Robert Raines, C. J. Rosbert, Carl Brown, Richard Rossi, Vance Shappard and C. A. Laughlin, R. S. Holmes and Jules Wat-

son, "Hump" pilots, are also among flying personnel.

The company's maintenance setup is headed by Jack Cornelius, former line chief for AVG, and Mac Wakefield, also on line maintenance with the Flying Tigers.

While National Skyways will maintain headquarters in Los Angeles (4536 District Blvd.), Prescott said that an eastern operations base also would be established.

The only other Budd Conestoga in commercial service outside the fleet purchased by National Skyway is one sold to Viacao Aerea Santos Dumont, S. A., of Brazil, by the Navy.

Aero-Transportes Permitted To Use Brownsville Airport

The CAB has authorized Aero-Transportes, S. A., a Mexican carrier, to use the airport at Brownsville, Tex., as a terminal point on its route from Monterrey, Mexico. The authorization carried presidential approval.

Aero-Transportes will use the Brownsville airport instead of that at Matamoros, Mexico, because of inadequate facilities at the latter point.

The authorization is effective for one year from June 29, and Aero-Transportes has stated it will file an application for permanent operation into Brownsville prior to the termination date.

Lowest Direct Operating Costs Predicted for Fairchild Packet

The C-82 Packet cargo aircraft will have the lowest direct operating costs of any existing two or four-engine transport in cargo operations over non-stop ranges up to 500 miles, according to performance and cost studies just completed by engineers of Fairchild Aircraft Division, Richard S. Boutelle, Fairchild general manager, announces.

19-Pound Refrigerator Disclosed By American

A new portable refrigerator weighing only 19 lbs. and capable of carrying 100 lbs. of perishables was unveiled by American Airlines recently on the occasion of the opening of scheduled service into Philadelphia's Northeast Airport. On the initial flight it carried several dozen lob-



Portable 'Keep-Rite' Unit

sters and maintained a 58 degree temperature from Boston to Philadelphia.

Known as the "Keep-Rite," the new unit was invented by George B. Wagner, chief development engineer of Cast-alloy Corp., Cambridge, Mass., and contains dry ice which melts and thus creates high pressures which operate the mechanism. Wagner describes it as a combination gas engine and compressor driven by carbon dioxide, and says it can run for four days without refilling. It will maintain any temperature from 64 degrees above to 40 degrees below zero Fahrenheit, and is also pressurized at all times, permitting the transportation of bottled goods at altitudes without danger of cork-popping.

The Navy is studying the unit for the shipment of whole blood to the Pacific theatre. Among potential peace time users are the milk industry and toxin supply houses. No outside power is required at any time, and the unit can be lifted out of an aircraft and loaded aboard a truck without affecting the contents.

All American Asks Board To OK Latin American Deal

All American Aviation has filed for Civil Aeronautics Board approval of its acquisition of control of Equipamento All American Aviation, S. A., a sales and service company it has set up in Brazil. All American owns 51 percent of the stock of the Latin American firm; the remainder is in the hands of Brazilian citizens.

Equipamento proposes "to engage in selling, servicing, maintaining, and instructing others in the operation and maintenance of air pick-up equipment and accessories manufactured by All American Aviation."



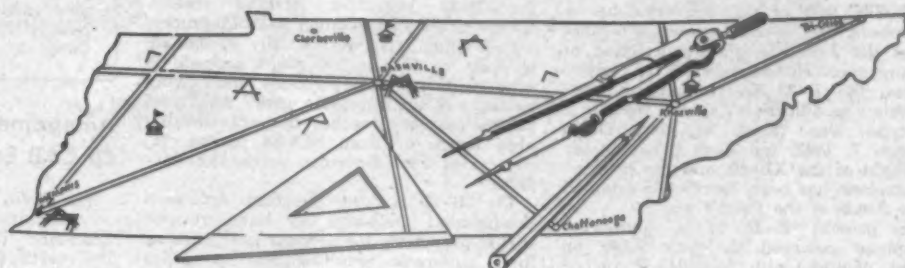
Five From Eastern— Five Eastern Air Lines pilots were among the first flight officers chosen by the Navy to fly the Martin Mars flying boats. Shown here with the original prototype they are, left to right: Lt. Cmdr. Tommy Bothwell; Lt. Jim Talton; Lt. Cmdr. W. E. Consey, Captain of the original Mars and officer in charge of the original Mars detachment; Lt. Cmdr. Joe Baker, the Navy's second command pilot of the Mars; and Lt. Cmdr. Chum Chumbley, Mars first pilot.

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GOV. JIM McCORD
"... a good start
has been made"

TENNESSEE HAS A FUTURE IN THE AIR



WE are writing the first pages in the new chapter of Tennessee in the Air Age. Already, our map is criss-crossed with airways, dotted with airports and flecked with schools that teach our young citizens to be air conscious.

Thanks to our Bureau of Aeronautics, a good start has been made. But the chapter is yet to be written. More and more details are to be put into the map, as the succeeding ads of this series will reveal.

- ☆ Tennessee has the landing places ready.
- ☆ Tennesseans are air educated.
- ☆ Tennessee is close, by air, to everywhere.
- ☆ Tennessee is the place to build airplanes.
- ☆ Tennessee is the place to fly for fun.

Remember Tennessee IN YOUR POST-WAR AVIATION PLANS

Jim McCord
JIM McCORD, Governor

WANT TO KNOW MORE
About
TENNESSEE?

Ask us...

BUREAU OF AERONAUTICS
BERRY FIELD, NASHVILLE, TENN.
Send me (free) **MORE ABOUT TENNESSEE**
Name _____
Address _____
City and State _____ (Zone) _____

B-32 Goes After the Japs; Greatly Modified Since '42

Specifically Adapted To Needs of Pacific War

THE SECOND of this country's heavy bombers, the B-32, is now in action against the Japs. Originally designed to the same specifications as the B-29 Superfortress, the B-32 has undergone considerable modification since the first prototype was flown at San Diego on Sept. 7, 1942, ten days prior to the first flight of the XB-29, and the production airplane has been specifically adapted to the needs of the Pacific war.

The present B-32 is a high-wing monoplane powered by four 2,200 hp Wright engines with twin G-E turbo-superchargers, an almost identical powerplant installation to that used on the Superfortress. It has a design gross weight of 100,000 lbs. and an alternate gross weight of 120,000 lbs., and although smaller than the B-29, it has a considerably higher ratio of payload to weight empty and will carry a heavy bomb-load comparable distances.

The B-32 has a low drag Davis wing with a span of 135 feet, and is equipped with split flaps of the Fowler type. The ailerons are provided with electric motor operated trim tabs. The fuselage is of all-metal, cylindrical, semi-monocoque design and has an overall length of 83

ft. 1 in. The single fin and rudder rises to a height of 32 ft. 2 in. in a taxi position. In both general appearance and in its tail down attitude during cruising flight the B-32 bears a striking resemblance to the two-engine B-26 Marauder, a fact which may be partially explained, at least as far as the flight attitude is concerned, by its extremely high wing loading—at the alternate gross weight of 120,000 lbs. this reaches the unbelievably high figure of from 83.5-84 lbs./sq. ft., highest of any American production airplane.

The B-32 is also the first American production landplane to have reverse thrust propellers for aerodynamic braking and automatic multi-engine propeller synchronization. The propellers are four-bladed Curtiss electrics of 16 ft. 8 in. diameter, largest ever used on a production airplane.

United's Baggage Handling Speeded By Chute, Conveyor

A gently sloping chute and a slowly moving conveyor are combined in the new United Air Lines offices in San Francisco to provide the ultimate in speedy and efficient baggage handling. The top of the chute is located beside the weighing-in baggage scales on the main reception floor. As soon as the baggage is weighed, it is placed on the chute and slides down to a basement platform one floor below and directly under the sidewalk where the airport limousines are loaded.

At this point attendants move the luggage from the platform to the conveyor belt, which in turn deposits it gently on the pavement above, where another attendant stows it in the limousine. In addition to cutting baggage handling to a minimum, the new system is said to save considerable time over the old method of manual transfer by a porter.



Baggage chute and conveyor at UAL's San Francisco office.

Predicts Big Florida Season

Florida can anticipate an unusual influx of winter visitors from New York and Philadelphia if war conditions permit adequate travel facilities, McDonald Bryan, director of public information for National Airlines reported in connection with inauguration of NAL service into Philadelphia and Charleston. Bryan was host at a luncheon in Philadelphia which had been cooked in New Orleans, quick frozen and flown to Philadelphia.

Amendment to Sections 292.2 Of CAB Economic Regulations

The Civil Aeronautics Board has issued an amendment to Sections 292.2 of its Economic Regulations, exempting from the certificate provisions of the Civil Aeronautics Act all Alaskan air carriers who, for the six months ending March 31, 1945, have been engaged in unauthorized air carrier operations within the Territory. Any person engaged in such unauthorized activities however, is required by the exemption order to file on or before Sept. 15, 1945, for a certificate of convenience and necessity or an exemption covering the irregular operations.

The amendment constitutes a recognition of the status quo among the Alaskan carriers, and is related to the general investigation of Alaskan air services undertaken by CAB last Spring. The order opening the study pointed out that because of the transportation problems peculiar to the Territory, several unauthorized services had sprung up to meet specific needs, and that in addition regularly certificated carriers had, on occasion, departed from the specific terms of their certificates to provide required services.

Under the terms of the new regulation, the exempted carriers will be allowed to make "casual, occasional or infrequent" charter trips, and to offer other special services.

Exemptions granted by the amended regulation will terminate on the date of the Board's final order regarding any application for service made under its provisions.

Wiggins Airways Starts Personal Plane Service

Wiggins Airways, Inc., maintaining a fleet of airplanes based at Boston, Norwood and Westfield, Mass., announces inauguration of a new Personal Plane Service, offering charter, non-scheduled air transportation without priority to all parts of the country.

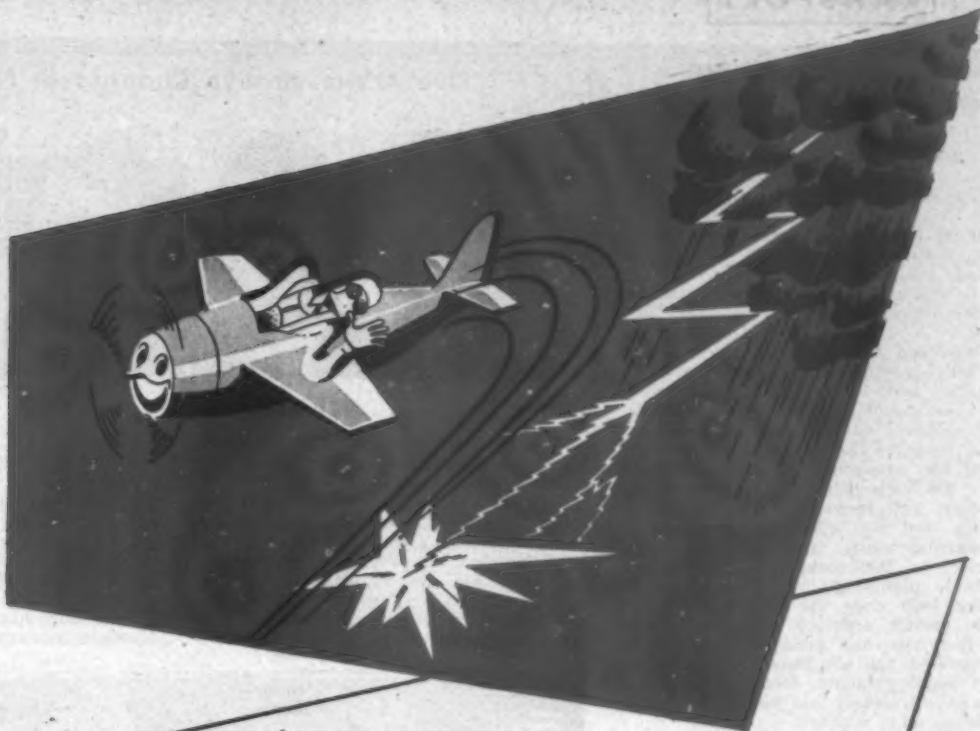
The rates are based on 16c a mile for one passenger and 22c per mile for two or more passengers. The rates are a departure from past practice of charging an hourly charter rate with different rates for different types of aircraft. A new feature of the Wiggins plan is to charge a uniform rate, using whatever plane is suited—twin-engine as well as single-engine.

Five DC-3s, Two Lodestars In 14th Surplus Allocation

The 14th allocation of surplus transport planes, non-standard to military specifications, was announced July 13 by the Surplus Property Board. Transport allocations made include five Douglas DC-3 type and two Lockheed Lodestar (C-60s). Three of the DC-3s allocated had previously been rejected by airlines to which they were assigned; the other two were recently declared surplus. Spokesmen for SPB told AMERICAN AVIATION that the DC-3s were rejected by the original assignees largely because the engines were a make not standard to their requirements.

One DC-3 was allocated to each of the following domestic airlines: Northwest Airlines, Delta Air Corp., Pennsylvania-Central Airlines, and Eastern Air Lines; and one to TACA Airways, S. A. To date 163 DC-3s have been allocated, of which 103 went to domestic and 60 to foreign airlines.

Previously the Board removed Lockheed Lodestars from allocation because the supply was sufficient to meet the demand. In today's announcement, the Board said that the airline version of the Lodestar (C-60) had again become subject to allocation because of insufficient supply for all those entitled to priority consideration under the terms of the act. Under the new procedure two C-60s were allocated: one to William D. Pawley, U. S. Ambassador to Peru, and one to Owens-Corning, Fiberglas Corp.



Reflex action for planes

Alreon hydraulic and electronic equipment has become an integral part of many military and commercial planes that must necessarily "think fast" to stay on the job, keep out of trouble. What's more, these **Alreon** power controls and radio gear are stacking up flying time substantially beyond what we'd thought reasonable to demand of them. ■ We can tell you how it's done...up to a point. Microprecision for one thing. High safety factors for another. Engineering creativeness. Hard-won experience, of course. Beyond this, it's a subject for your engineers and ours. ■ Our plants are geared to produce the unusual as readily as the commonplace. If it's hydraulics or electronics, we can meet your requirements with precision and dispatch. Our executives can start the ball rolling if you say so.

Alreon

MANUFACTURING CORPORATION

Radio and Electronics

Engineered Power Controls

NEW YORK • CHICAGO • KANSAS CITY • BURBANK

Air Pressure Measuring Method Revised by NWA

A modification to the conventional pitot head method of air pressure measurement for airspeed indication which provides more accurate airspeed and altitude indication on take-offs and landings has been announced by Northwest Airlines. The revised system was tested and approved by CAA representatives in May and is now being installed on all Northwest passenger aircraft.

Developed for DC-3 aircraft by James A. Butcher, supervisor of airframe engineering, and Manfred Boe, foreman of the instrument shop, the new installation consists of a three-inch diameter tube mounted in the nose of the aircraft for measuring pitot pressure, and four 3/8 inch holes located around the fuselage just forward of the empennage which feed into a common manifold for measuring static pressure, both connected to the cockpit instruments by suitable plumbing.

Not only does the new system provide greater accuracy, but the increase in line sizes and pressure openings incorporated has eliminated water logging and icing problems. Design of the new equipment already has been made available to other airlines.

CAB Proposes Changes In Economic Regulations

The Civil Aeronautics Board is circulating for comment proposed amendments of Sections 238.5 and 238.6 of its Economic Regulations relating to the filing of non-stop notices and airport notices, and a wholly new section 238.7 which is being considered for adoption.

The new section 238.7 relates to the filing and service of non-stop notices, airport notices, and similar notices required in connection with foreign air transportation, and applications for the addition or elimination of a point from an approved service pattern designating the points which a carrier may serve under a certificate naming general areas.

This regulation, if promulgated by CAB, will affect the international operations of TWA, Pan American Airways, and American Export Airlines, all of whom received general area certificates in the North Atlantic division.

The revised Section 238.5 prescribes the list of state, local, federal and airline officials upon whom copies of non-stop notices must be served.

The amendment of Section 238.6 provides procedures whereby an air carrier may obtain CAB authorization temporarily to suspend service whether its operations are interstate, overseas, or foreign.

PAA Arranges to Buy Planes

Pan American Airways has made arrangements to purchase a minimum of approximately \$10 million worth of new postwar transport aircraft and a maximum of \$140 million worth.

This summary, disclosed in the prospectus in connection with the present offer of rights to stockholders, states that arrangements were made in 1944 and 1945 for acquisition of 26 Douglas DC-7s, between 20 and 30 Lockheed Type 10 aircraft, and between three and 15 Consolidated Model 37 aircraft.

Five Administrative Changes at Northwest



Ferguson



Bullwinkel



Marshall



Glotzbach

Northwest Airlines' board of directors has approved five major changes in the administrative organization.

Col. George S. Gardner, recently on leave to the Air Transport Command, has returned as vice president—operations. K. R. Ferguson, formerly vice president—operations, has been appointed to the new position of vice president—engineering and planning. R. O. Bullwinkel, who came to Northwest from Pan American

Airways, Alaska Division, in 1943 has been elected to the new position of vice president—traffic. L. C. Glotzbach has been appointed executive assistant to the president but will remain as head of the personnel and budget department. W. Fiske Marshall who returned to Northwest in October after serving as a colonel in command of the South Pacific Combat Air Transport, has been appointed general operations manager.



Dear Eric:

I thought you might like to know that while you have been out in the wilds of China, our air hostesses have taken a change for the better—at least so says C. A. Williams, TWA's superintendent of flight service.

Chances are, says Williams, the gals are taller than they were a few years ago. Anyhow, TWA has upped its height limit for hostess applicants from five-foot-five to five-foot-six—but she can't tip the scales any more than before.

Remember those ping-pong balls Howard Hughes and his associates used as a safety device on their round-the-world flight seven years ago? Well, somebody dug 'em up out in the Hughes plant the other day—all 30,000 of 'em. Much to the joy of the ping-pong trade, the balls were in good condition and have been disposed of as surplus. (This item could stand similar treatment.)

Sam Solomon tells this little story: A couple of Navy planes were playing hop-scotch over Bethesda, Md., the other day, and Sam called to his young nephew, Frank Zack, to take a look at 'em. "I seen a horse," was Frank's somewhat excited reply. A bit non-plussed, Sam looked around to see a horse and rider emerging from a nearby bridge-path. The planes collided in mid-air. (Honest they did.)

Northeast Airlines swears this is only coincidence: Milt Anderson, vp of operations, was flying from Washington to New York in NEA's Stinson. Over Philadelphia he hit headwinds and set it down to take on more gas. Much to his surprise (that's a direct quote) he discovered that he had walked right in on the opening ceremonies of Philadelphia's new airport. Much handshaking followed.

"That's the second time in two months that we have been in on such an affair," chuckles Fred Knight, NEA's director of public relations. "Back on May 1 (the Philadelphia affair took place June 26), one of our New York planes had to go into Hartford because of the air traffic over La Guardia, and the NEA Douglas made its unscheduled landing right in the middle of the Mayor's speech as he was welcoming United to Hartford."

United's Stewardess Betty Stevens is our nominee as the person most likely to succeed in Walla Walla. In the midst of speeches and ceremonies at Walla Walla in connection with United's resumption of service, it is reliably reported that she asked the mayor if he lived there.

And then there is the letter addressed to "American Airways or United Airways, I don't know which." Complained the writer: "Would it be possible for the plane bound for Frisco or from it at about 11 o'clock, which passes over my house and wakes me up, to switch to the right about a quarter of a mile? Up there lives a deaf man and he won't hear it. I'd hate to have to set my house over further."

So, you can see that things are tough at home, too.

Beechcraft Means *BUSINESS*



WHILE the war continues, Beechcraft business is war production — *delivered on schedule*. When the war ends, Beechcraft rapidly will convert to production of outstanding airplanes designed for civilian use. Beechcraft's peacetime business will aim at the promotion of the prosperity of its employees, stockholders, dealers, and customers. Through these groups Beechcraft intends to contribute to the welfare of all.

Sunrise

PHOTO BY
HANS GROENHOFF

Beech Aircraft

CORPORATION

BEECHCRAFTS ARE DOING THEIR PART



WICHITA, KANSAS, U.S.A.

Intrastate Applicants Withdraw in Tennessee

All air carriers applying for intrastate routes in Tennessee withdrew their applications at a pre-conference hearing at Nashville July 11th when the rules, regulations, procedures and requirements were explained.

The hearing was conducted by Albert Beitel, former CAB Examiner, under the auspices of the Tennessee Bureau of Aeronautics.

The applicants were told that no mail contracts were involved, that the safety requirements were the same as those of CAA; and that once an applicant was given authority to operate within the State, unless a temporary certificate was requested, the proposed service must be of a permanent nature.

Applicants were: Blue Grass Airlines, Russellville, Ky.; Southeastern Greyhound Lines, Lexington, Ky. and Angeline Harris, Rutherfordton, N. C. Intervenor was: American Airlines and Delta Airlines.

CAB Denies Page Airways' Request to Defer Inquiry

The Civil Aeronautics Board has denied a petition in which Page Airways had asked CAB to defer action on its economic investigation of Page's operations. The Board also denied Page's request for oral argument on the motion to defer.

at the Washington National Airport, CAB Shortly after the crash of a Page plane launched the economic investigation of the company's activities to determine whether it was operating scheduled service as a common carrier in violation of the certificate provisions of the Civil Aeronautics Act.

Page had requested deferring the in-



Finger-Tip Doors—These new-type doors, leading to smoking and lavatory compartments, are features of the Douglas C-54E. These pivotal double acting doors open down the center when the handle is pulled lightly. The right-hand door opens toward the person pulling the handle, the other door automatically swings in the opposite direction. E. Gilbert Mason, chief of interior design for Douglas, who perfected the C-54E doors, says this is only a fore-runner of the ease and simplicity to be found in postwar doors.

vestigation until after the Board had issued its opinion in its general survey of non-scheduled air transport operations. (Docket 1501.)

Hearing Page's operations will go forward as scheduled August 20 before Examiner William F. Cusick.

TACA Airways Acquires Eight Lockheed Lodestars

Acquisition of eight Lockheed Lodestars for use in Latin America and routes to Mexico City and Miami is announced by TACA Airways. First of the Lodestars is expected to be put into service late this summer with the remainder by fall, John M. Lockhart, executive vice-president, stated.

Two of the planes will be used in cargo service to the Neptune and La Luz mines in Nicaragua replacing tri-motor Fords while the others will carry passengers, express and air freight enable the company to operate "faster and more frequent schedules both locally and internationally."

Pan American Re-elects 17 To Board of Directors

At the annual meeting of the stockholders of Pan American Airways Corp. in Jersey City July 19 the following directors were re-elected: Charles Francis Adams, H. M. Bixby, Prescott S. Bush, S. Sloan Colt, John C. Cooper, Howard B. Dean, S. M. Fairchild, John W. Hanes, Robert Lehman, E. O. McDonnell, Mark T. McKee, Thomas A. Morgan, Samuel F. Pryor, W. H. Standley, Vernon F. Taylor, J. T. Trippe, E. E. Young.

In reporting on the company's business for the year, Juan T. Trippe, president, pointed out that during the year, all divisions of the system operated under arrangement with the armed services, except in Latin American, where service was maintained with equipment that could be spared from the war effort. Gross business in 1944 amounted to \$93,000,000. Net business as reported was \$1,619,309, as compared to \$1,929,764 in 1943. The ratio of reported net profits to gross business was 1.7 per cent.



Green

Koontz

Scott

Executive

Col. M. M. Frost, a former official of the Florida Portland Cement Co., who has been on active duty with the AAF since April, 1942, has been elected a vice-president of Eastern Air Lines.

Operations

Harold Getty, whose 'round the world flight with Wiley Post in 1931 won him international acclaim, has returned to the Pacific-Alaska Division of Pan American World Airways, where he will assist in putting into operation the division's postwar plans.

Traffic

A. B. "Col" Hayes, former Mayor of Juneau, Alaska, who with a group of Seattle business men formed the Alaska-Washington Airways in 1930, has been named representative for Alaska Airlines at Juneau.

W. M. Morgan has been appointed DTM in Oklahoma City for Braniff Airways in addition to his



Earling

Forsyth

Maurer

present duties as special representative of Braniff in the State of Oklahoma.

Willard W. Scott, formerly with the New Orleans freight and passenger traffic office of Union Pacific railroad, has been appointed city traffic manager in St. Louis for Mid-Continent Airlines.

John F. Forsyth has been appointed DTM for TWA in Philadelphia following two years in New York as traffic representative.

A. J. Earling has been appointed vice president-traffic for Chicago and Southern Air Lines to fill the vacancy created by the resignation of D. D. Walker.

Clarence P. Green, formerly city passenger and ticket agent for Missouri Pacific Railroad, has been named city traffic manager in New Orleans for



Frost

Kennedy

Dowell

Mid-Continent Airlines. G. L. Koontz, who has been working for the U. S. Government in the Canal Zone since 1937, has been appointed traffic representative at New Orleans for Mid-Continent.

Miscellaneous

John T. Plunket, of Greenville, Texas, has been appointed assistant to the president of Aerovias Braniff, S. A., a Mexican airline with headquarters in Mexico City.

Warren A. Peterson, former superintendent of passenger service procedures for United Air Lines, has been appointed supervisor of passenger relations at Chicago.

Richard Maurer has been named assistant general counsel and secretary of Chicago and Southern Air Lines.

Howard Kennedy has been promoted from Washington regional traffic manager for PCA to assistant to J. J. O'Donovan, vice president.

Lewis J. Dowell, Seattle and Alaska construction man, has been appointed public relations counselor for Pan American Airways' Alaska service.

For Utmost Dependability...

WITTEK Aviation HOSE CLAMPS



Type WWD Stainless Steel worm-drive adjustable hose clamp. Made in eight sizes to cover the entire range of applications.

Type FBSS Stainless Steel hose clamp. The most widely used hose clamp in the aviation industry. Made in the standard AN 748 sizes... also additional sizes for special requirements.



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4325-11 N. 24th Place, Chicago 23, Ill.



Dependability has been recognized by the Wittek Manufacturing Company during its 25 years of hose clamp manufacturing experience as a foremost requirement in any hose clamp design. Wittek assures this dependability by the selection of basically sound designs... the use of high-grade materials and the application of good workmanship. Today Wittek offers two distinctly different hose clamp designs—each of which meets the requirements of Specification AN-FF-C-406 A.

TYPE WWD—an adjustable worm drive hose clamp made of stainless steel and designed to take full advantage of the superior physical properties of that material. Note the compact streamlined housing... the hardened one-piece thumbscrew—PLUS a new exclusive Wittek feature—an inner band of Stainless Steel accomplishing the two-fold purpose; (1) protecting the hose from the serrations in the outer band, and (2) distributing the load uniformly to provide greater strength and superior sealing characteristics.

TYPE FBSS—an improved Stainless Steel version of Wittek's basic FB design—now incorporating a bridge extender—in all sizes. This is the most effective hose clamp for all applications where an adjustable clamp is not necessary.

Hose Clamps of all requirements, made by Wittek—specialists in hose clamps and their applications.

War Bonds for Victory... Buy More Now (see below)



1st PCA Mail in N. Y.—Albert J. Goldman, postmaster of New York City, is shown receiving from PCA Captain Bill Riley and PCA President C. Bedell Monroe the first sack of U. S. mail to be unloaded from the first flight to formally link New York with the rest of the PCA system. Photo was taken at La Guardia Field July 1.

Mississippi Valley Hearing Scheduled for November 5

The Civil Aeronautics Board has extended until Nov. 5 the hearing date in the Mississippi Valley case (Docket 548 et al). The date for the exchange of exhibits has been advanced to Oct. 1 and date for exchange of rebuttal exhibits to Oct. 22.

The Board also issued a consolidation order in this case severing portions of Chicago and Southern's application in Docket No. 998 and assigned the severed portion to Docket 1949, portions of Eastern's application in Docket No. 1067 and assigned it to Docket No. 1950, portions of Braniff's application in Docket No. 1798 and assigned it to Docket 1948, portions of Milky-Way Transport Corporation's application in Docket 885 to Docket 1951 and portions of Clear Ridge Aviation Docket 1265 to Docket 1952. The consolidation order involves 48 applicants.

Temporary Washington-Cairo Permit of TWA Cancelled

The Civil Aeronautics Board has issued an order cancelling TWA's temporary certificate to engage in foreign air transportation of persons, property and mail between Washington, D. C. and Cairo, Egypt and various intermediate points and has lifted the ban of secrecy which was invoked at the time the application, with War Department endorsement, was granted Jan. 6, 1942 and approved by the President Jan. 23, 1942. Knowledge of the existence of this temporary certificate came to light at the World Air Transport Operators Conference in Havana when TWA applied for membership in the Conference on the grounds it was licensed to operate in the international field. TWA never operated the route commercially.

Baltimore Advised How To Get Ocean Terminal

The CAB was understood to have informed Baltimore aviation interests last fortnight that the best method for the city to obtain reconsideration as a terminal for North Atlantic service would be for one of the three transatlantic carriers to file an application with the CAB for such service.

The Board's action followed the filing of a petition by the city, aided by Senators Millard E. Tydings and George L. Radcliffe, both of Maryland, asking that the CAB reconsider that portion of its North Atlantic decision which denied Baltimore's designation as one of the terminal points.

The Board's decision said that Baltimore could be served through either the Washington or Philadelphia terminals. Pan American Airways had asked that Baltimore be designated as one of the points on its transatlantic routes.

Interlocking Setup Between AA-AMEX Up for Approval

Preparing for the final consummation of the agreement whereby American Airlines will acquire a majority interest in American Export Airlines through a \$3,000,000 stock purchase, American has asked the Civil Aeronautics Board to approve interlocking relationships of the officials who will serve both companies. (Docket 1966).

Under the provisions of the purchase agreement, American has nominated its Chairman C. R. Smith, President Ralph S. Damon, Treasurer H. K. Rulison, and Secretary C. W. Jacob to serve on the board of directors of Amex. The agreement empowered American to nominate a majority of the Amex board members if the purchase were approved.

John E. Slater has also filed for CAB approval of his positions as chairman of the board and director of Amex and as executive vice president of American Export Lines, Inc. (Steamship). (Docket 1968).

TWA Using Fiberglass In Seats, Crew Bunks

Neoprene-coated fiberglass is now being used by Transcontinental & Western Air, Inc. as a supporting fabric for seats on its commercial airliners, and for crew bunks on C-54 Skymasters operated for the Air Transport Command. TWA has also developed a steering gear dust boot for all its aircraft from the same material.

The coated glass cloth was first tried out by TWA as a supporting fabric for seats on Stratoliners prior to their being turned over to the Army, and following tests of tear and tensile strength, dimensional stability, and general durability in use, was adapted to other applications.

The new dust boot replaces an all rubber boot which wore out rapidly under severe operating conditions including constant flexing. Today the coated glass cloth boots are reportedly giving better than 50 percent greater service.



Father-Son Act—When Capt. A. W. Leighton of Pennsylvania-Central Airlines completed his 15th year with PCA last fortnight, the airline accorded his son, First Officer Willard A. Leighton, the honor of pinning a 15-year service award on his father's jacket. The two fly the Milwaukee-New York route side-by-side.

Alaska Airlines, Woodley Airways Get Certificates

The CAB has certificated Alaska Airlines to carry mail between Fairbanks and Anchorage, Alaska, and Woodley Airways to transport persons, property and mail between Anchorage and Kodiak, via Homer, Alaska.

The certificates carried presidential approval. Considered in connection with the routes was the Postmaster General's certified need for mail service between Fairbanks and Kodiak via Anchorage and Homer.

Alaska Airways previously was certificated to operate air service for passengers and property between Fairbanks and Anchorage and between Anchorage and Seldovia. Woodley is authorized to operate between Anchorage and Ninilchik and has rendered mail service to Homer under a special exemption order.

Northeast Protests CAB's North Atlantic Decision

Northeast Airlines, through its General Counsel John S. Wynne, has filed with the Civil Aeronautics Board a formal protest of its decision in the North Atlantic case, requesting that the proceeding be reopened for reargument and reconsideration of the Board's final order.

Northeast's petition was filed a day after PCA had asked the Board to reopen the case for rehearing, reargument and reconsideration.

In his petition, Wynne recited points of law in which he alleged the Board had erred in its findings in the North Atlantic case. He stated that the criterion of financial ability, which the Board had used among others in its choice of carriers, would, if consistently applied, permanently rule smaller lines out of the international picture.



Investigating the grain structure of a metallurgical subject, magnified 585 times.

..... Arming radio for war

MODERN GLOBAL WARFARE has subjected radio communication equipment to hitherto unheard-of forms of punishment. Not the least of these are extremes of shock and vibration, the enormous acceleration of high-powered aircraft take-offs and the abrupt deceleration of carrier landings.

Such service requires not only a high degree of excellence in design and fabrication, but also an infinite amount of research in the field of available materials and their behavior under varying conditions.

Collins chemical and metallurgical research has

played a very important part in developing the Collins communication transmitters and receivers which have proved so trustworthy in Military service.

The result of continuing research will be reflected in the Collins equipment available to commercial users after the war. Collins Radio Company, Cedar Rapids, Iowa; 11 West 42nd Street, New York 18, N. Y.



IN RADIO COMMUNICATIONS, IT'S . . .

PIONEER POINTS THE WAY

**The Pioneer Electronic Automatic Pilot
Gives Finger-Tip Plane Control**

The Pioneer* Pilot uses the flexible power of electricity and precision of the Pioneer-developed Gyro Flux Gate Compass to set new standards of automatically controlled flight. It flies the plane with amazing softness and smoothness and keeps

it steadily on its heading. Because it has automatic synchronization, the flip of a switch permits the Pioneer Pilot to assume control of the plane. It requires the minimum of precious instrument panel space. Details are now available on request.

Listen to "MEN OF VISION" Sundays 7 P.M. E.W.T. CBS.

PIONEER INSTRUMENTS

*REG. U. S. PAT. OFF.

ECLIPSE-PIONEER DIVISION
Yonkers, N. Y.

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CAB Proceedings

(A Summary of Applications Filed, Orders Issued, and Future Actions of the Civil Aeronautics Board.)

Route Applications

Alaska Airlines, Inc.—amendment of its certificate authorizing service between Fairbanks and McGrath, via Medfra, so as to include Nonana and Minchumina. (D. 1920)

Philip P. MacDonald—application for a permanent or temporary certificate and/or an exemption order authorizing non-scheduled air transportation to all points within a radius of 150 miles of McGrath, Alaska; charter trips between all points in the Territory of Alaska; transportation of mail between McGrath and Fairwell, via Medfra under sub-contract with Gillam Air Lines, the certificated operator on the Fairbanks-Bethel mail route. (D. 1924)

Southwestern Air Freight & Express Airlines, Inc.—application for a permanent or temporary certificate authorizing scheduled air transportation by conventional aircraft with pick-up device over two circle routes out of Fort Worth, Tex. and two circle routes out of Dallas, Tex. (D. 1925) Also an application for similar service over the following routes: Little Rock-Fort Smith, Ark.; Little Rock-Memphis; Little Rock-Jackson, Miss.; Little Rock-Monroe, La.; Little Rock-Texas, Ark.; Shreveport-Monroe, La.-Jackson, Miss.; Shreveport, La.-Baton Rouge, La.; New Orleans-Baton Rouge-Monroe; New Orleans/Lake Charles-Baumont, Tex. (D. 1926)

Northern Airways—application for approval of the transfer of the certificate of Harold Gillam to Northern Airways (D. 1928)

Ray Peterson Flying Service—amendment No. 1 so as to request McGrath as an intermediate point of the Platinum-Anchorage route, and to include transportation of mail on said route. (D. 1971 as amended)

Hyman Flying Service, Inc.—amendment No. 4 requesting a permanent certificate for scheduled air transportation between Rochester, N. Y. and Washington, D. C. and between Buffalo and New York, with intermediate stops. (D. 1977 as amended)

Eastern Air Lines, Inc.—Amendment No. 3 requesting extension of Route 40 from Memphis to Kansas City, via Springfield and authorization to serve any and all other points along said proposed route, and any points north or west of Kansas City, or south or east of Memphis, to or from which the Board may find additional service required. (D. 1967)

Transcontinental & Western Air, Inc.—amendment No. 1 requesting temporary authority to include Emporia, Kan. as an intermediate point on Route 2. (D. 1137)

Toussaint Air Service—application for certificate for non-scheduled transportation between Fort Yukon and Fairbanks and that area of the upper Yukon Valley bounded by Circle, Rampart House, Arctic Village, Venetie, Stevens Village and Birch Creek Village. (D. 1927)

Oscar Winchell Flying Service—application for permanent or temporary certificate authorizing air transportation over irregular routes west of the Alaska Railroad and Cook Inlet; south of the Yukon River, including points on the river; north of a line drawn east and west through Dillingham. (D. 1929)

Reese Airways—application for permanent or temporary certificate for non-scheduled air transportation of passengers and freight within the territory of Alaska, or for an exemption order authorizing such service. (D. 1930)

Northern Airways—application for a permanent and/or temporary certificate authorizing air transportation between Anchorage, Alaska and McGrath, Alaska, with Fairwell an intermediate point; also any point or points having a reasonable proximity to the points covered by the proposed route as the Board might select. (D. 1931)

Trans-Canada Air Lines—application for a foreign air carrier permit authorizing air transportation between White Horse, Yukon Territory, and Fairbanks, Alaska. (D. 1935)

William H. Towle—application for a permanent and/or temporary certificate for scheduled air transportation of persons, property and mail between West Quoddy Head, Maine, and St. John, New Brunswick, Canada. (D. 1938)

Mid-Continent Airlines, Inc.—amendment No. 2 to the application in D. 1051, so as to authorize service on its certificate for Route 26 or its certificate for Route 48 between Kansas City and/or Joplin-Memphis, and/or Joplin, Mo. and Memphis. (D. 1051 as amended)

Continental Air Lines, Inc.—amendment No. 1 in the application in D. 1097, to request a permanent, temporary, limited or restricted certificate (or amendment of its existing certificate for Route 60) authorizing scheduled air transportation between the terminals Kansas City, Mo. and Memphis, Tenn. via Springfield, Mo. (D. 1097 as amended)

Westland Airlines—amendment No. 1 to the application in D. 1690 so as to request a permanent and/or temporary certificate over the following proposed routes: San Angelo-El Paso; San Angelo-Fort Worth; San Angelo-Fort Worth (alternate route); Fort Worth-Oklahoma City; Fort Worth-Tulsa; Fort Worth-Austin. (D. 1690 as amended)

Transcontinental & Western Air, Inc.—amendment No. 1 to the application in D. 1662 to request its certificate for Route 44 authorize air transportation to and from Quincy, Ill. and Hannibal, Mo. (D. 1662)

Ernest Long—amendment No. 1, so as to request a permanent certificate for scheduled air transportation over a circle route out of Los Angeles with intermediate points. (D. 1827)

Trans-Southern Corp.—amendment No. 1 so as to request a permanent or temporary certificate authorizing scheduled air transportation over the following routes: Kansas City, Mo.-Jacksonville, Fla.; Oklahoma City-Memphis; Springfield, Mo.-Little Rock, Ark.; Memphis-Pensacola; Birmingham-Savannah. (D. 1899 as amended)

William H. Towle—amendment No. 1 so as to request a permanent and/or temporary certificate authorizing scheduled air transportation between West Quoddy Head, Me. and New York, N. Y., via the intermediate points Bar Harbor, Rockland and Booth Bay Harbor, Me., Portsmouth, N. H., Boston and Onset, Mass., and Newport, R. I. (D. 1911 as amended)

Alaska Airlines, Inc.—application for a permanent or temporary certificate authorizing air transportation between Naknek and Bethel, Alaska. (D. 1933)

Ray Peterson Flying Service—application for a permanent certificate for scheduled air transportation over the following routes: Bethel-Hooper Bay; Bethel-Quigillingok; Bethel-Nyak, with intermediate stops. (D. 1934)

Woodley Airways—application for a certificate authorizing scheduled air transportation between McGrath

Hudson Airlines, Inc.—application for a permanent or temporary certificate authorizing scheduled air transportation over the following routes: New York-Buffalo; New York-Plattsburg; New York-Atlantic City, with intermediate stops. (D. 1943)

Carl E. Martin, Jr.—application for a permanent or temporary certificate and/or an exemption order, authorizing air transportation between Kodiak and Naknek, Kodiak and Cordova, via intermediate points, and a circle route out of Kodiak. (D. 1944)

Atlantic Airlines, Inc.—application for a permanent certificate authorizing scheduled air transportation by suitable type aircraft between Providence, R. I. and New Orleans, La. via various and alternate intermediate points. (D. 1945)

Cordova Air Service, Inc.—application for an exemption order authorizing extension of its Cordova-McCarthy-Chisana route from the intermediate point Chistochina to the terminal point Fairbanks. (D. 1946)

James Howard Adkins—application for a certificate authorizing non-scheduled air transportation in "flyaway" service of airworthy aircraft between points and places in the U. S., its possessions and territories. (D. 1953)

Aho Flying Service, a partnership of Toivo A. Aho and Dallas L. Bowen, has applied to CAB for a certificate authorizing non-scheduled operations carrying mail, passengers and express from the terminal point Anchorage, Alaska, to all points in the territory. (Docket 1962).

Alaska Airlines, Inc. has applied for an exemption order to permit it to carry persons and property between Anchorage and Juneau, via Cordova and Yakutat subject to the condition that it shall not engage in local service between Anchorage and Cordova. (Docket 1954).

Columbian Airlines of Chicago has filed with CAB for a series of routes through the middle west. Terminal points include Cleveland, Chicago, Cincinnati, St. Louis, Omaha, Kansas City and Sioux City. (Docket 1963).

Jim Dodson Air Service. Application for a route between Fairbanks and Nulato, Alaska, and for amendment of its certificate for the Fairbanks-Ruby route to include Holy Cross as an intermediate point. (Docket 1955).

Mid-Continent has filed with the Board application for amendment of its route 56 to add Springfield, Little Rock, El Dorado, Monroe and Baton Rouge as alternate intermediate points. (Docket 1956).

Calendar

August 14—Hearing, additional Cincinnati-New York service. (Docket 221 et al.). 10 a.m. Conference Room "A." Examiners Frank A. Law, Jr., and H. Heinrich Spang.

August 15—Hearing, Copper River Case (Docket 1814 et al.). CAB's Alaska Office, Anchorage. Oct. 1—Hearing, All American Aviation et al., Great Lakes case. (Docket 535 et al.) (Tentative).

Nov. 5—Hearing, National Airlines, et al., Mississippi Valley case. (Docket 548 et al.) (Tentative).

Dec. 2—Hearing, Mid-Continent Airlines, Kansas City-Memphis-Florida case. (Docket 1051 et al.) (Tentative).

Dec. 3—Hearing, Middle Atlantic case. (Docket 674 et al.) (Tentative).

Orders

3005—Amending order of May 9, 1945 (D. C-14) granting Pan American Airways, Inc. temporary exemption from service between Lisbon and Monrovia.

3006—Granting to Aero-Transportes, S. A. a temporary foreign air carrier permit, authorizing the use of the Brownsville, Tex. airport for one year. (D. 1895)

3007—Granting National Airlines, Inc. permission to serve Charleston, S. C. through the use of the Charleston Army Air Base.

3007—Rescinding Order 2601 dated Dec. 22, 1943 by which All American Aviation, Inc., American Airlines, Inc., Eastern Air Lines, Inc., TWA and United Air Lines were permitted to suspend service at the Philadelphia Municipal Airport.

3010—Rescinding that part of Order 1771 dated May 29, 1942 which authorized Eastern Air Lines temporary suspension of service at Brunswick, Ga. on Rt. 6.

3011—Approving the agreement between Northwest Airlines, Inc. and National Airlines, Inc., relating to sublease of hangar space by Northwest to National at New York.

3012—Granting Alaska Airlines, Inc. authority for mail transportation between Fairbanks and Anchorage (D. 844); granting Woodley Airways authority for air transportation between Anchorage and Kodiak, via Homer (D. 990); granted approval for transfer of certificate of Woodley Airways to partnership.

3013—Ordering public disclosure of the proceeding granting TWA temporary certificate to engage in air transportation between Washington, D. C. and Cairo, Egypt, and redesignating D. C-3 as D. 1947.

3014—Cancelling the temporary certificate of TWA to engage in air transportation between Washington, D. C. and Cairo, Egypt. (D. 1947)

3019—Granting Alaska Airlines, Inc. permission to intervene in the application of Trans-Canada Air Lines for a foreign air carrier permit. (D. 1935)

3020—Rescinding order dated Nov. 11, 1942 granting Pan American Airways, Inc., temporary exemption of service between Ketchikan and Juneau, Alaska.

3021—Dismissing the application of Automatic Air Mail, Inc. for a certificate of public convenience and necessity. (D. 830)

3022—Dismissing the application of Kansas Aviation Co. for certification. (D. 1158)

3023—Denying the petition of United Air Lines, Inc. to reopen the application for non-stop service between Fresno and Sacramento on Route 11. (D. 517)

3024—Granting permission to the cities of Goldsboro, N. C., Waycross, Ga., Columbus, Ga., and the city of Winston-Salem and Forsyth Co., N. C. to intervene in the Southeastern States case. (D. 501 et al)

- 3828—Approving an interlocking relationship between United Air Lines, Inc. and John J. Mitchell. (D. 1833)
- 3829—Granting the Minneapolis-St. Paul Metropolitan Airports Commission permission to intervene in the North Central case. (D. 415 et al)
- 3830—Granting permission to Eastern Air Lines, Inc., the City of Philadelphia and the County of Allegheny, Pa., to intervene in the applications of TWA et al for additional Cincinnati-New York service. (D. 221 et al)
- 3831—Approving an interlocking relationship between National Airlines, Inc. and Harry S. Parker, Jr. (D. 1604)
- 3832—Approving an interlocking relationship between George W. Gibbs, Jr., and National Airlines, Inc. (D. 1605)
- 3833—Approving an interlocking relationship between National Airlines, Inc. and G. T. Baker. (D. 1606)
- 3834—Approving an agreement between United Air Lines and Northeast Airlines relating to the furnishing of storage facilities for gasoline at La Guardia Field.
- 3835—Authorizing Pan American to inaugurate service to Charlotte Amalie, Virgin Islands, through the use of Boume Field.
- 3836—Permitting Pan American temporarily to suspend service to Santiago, Cuba. Although Santiago has been receiving seaplane service, its airport is inadequate for use by the DC-3's which PAA is gradually placing in use through the Caribbean area. The airport is being improved by PAA's Cuban subsidiary, Compania Cubana de Aviacion, which will continue to provide service there during the suspension.
- 3837—Authorizing the City of Waterloo, Iowa, to intervene in the North Central case. (Docket 415 et al.)
- 3838—Permitting the City of Jacksonville, Fla., to intervene in the Southeastern States case. (Docket 501 et al.)
- 3839—Approving an agreement between Northwest Airlines and PCA relating to airconditioning Northwest's planes at Milwaukee and New York.
- 3840—Reopening the record in the Rocky Mountain case (Docket 152 et al.) to permit George W. Snyder, doing business as Midwest Airways to present evidence and testimony supporting his application. Snyder was on active military service at the time of hearings in the proceedings.
- 3841—Consolidating applications of 47 existing carriers and prospective airline operators in the Middle Atlantic case. (Docket 674 et al.) The time and place of hearing before Examiners Charles J. Frederick and Richard A. Walsh have not been selected.

UAL Would Add 8,500 Mi. To Its Daily Operations

United Air Lines has filed with the Civil Aeronautics Board new schedules which will resume the Denver-Cheyenne service, suspended since May, 1942, and add two additional daily round trips between Chicago and San Francisco. The schedule proposed will add 8,500 flight miles to United's daily operations, raising the total to an all-time high of 120,865 daily scheduled miles.

The new Chicago-West Coast schedules increase to 20 the number of daily round trips United operates between those points. Two daily round trips are to be operated between Denver and Cheyenne. The schedules are to become effective August 1.

Part 41 of CAR Sets Up Rules for Outside U. S.

A new Part 41 of the Civil Air Regulations, governing regulations, certification and operation rules for scheduled air carrier operations outside the continental limits of the U. S., became effective Aug. 1.

The part, as finally adopted by the CAB after more than a year's study, will fur-



Training at Delta—Delta Air Lines is the first company in the Atlanta area to receive trainees through the International Training Administration, Rafael Torres, Jr., from Mexico (standing) and Carlos Moreno from Costa Rica are studying facilities in the Delta flight control office at Atlanta airport.

nish U. S. carriers with a uniform and complete set of rules designed to promote safe and orderly operations.

The rules divide operations into two categories—"short distance operations," and "long distance operations."

Short distance operations are defined as those which involve intermediate stops of sufficient frequency to permit the dispatch from each stop to be based on spot weather reports or a combination of spot weather reports and forecasts.

Long distances operations are those in which the time interval between stops is so great as to require that the dispatch be based entirely on forecasts of weather expected at the intended destination.

Mid-Air Collision of EAL, Army Planes Investigated

Civil Aeronautics Board accident investigation hearings on the mid-air collision of an Eastern Air Lines plane with an Army aircraft which occurred July 12 near Columbia, S. C. were held July 21 at County Court House, Miami, Fla., William K. Andrews, Chief of CAB's Accident Investigation Section presided.

Preliminary investigation at the scene of the crash disclosed that the Eastern plane, proceeding southward on a regularly scheduled flight, was struck at an altitude of 3000 ft. by an Army A-26 Bomber piloted by Col. James E. Gunn, Jr. The bomber approached Eastern's plane from the left, knocked off the DC-3's left engine and crossed underneath, damaging the fuselage.

One passenger on the airliner was killed, and four others injured. The plane was brought to a safe pancake landing in a cornfield by EAL pilot Capt. G. D. Davis. Two of the three-man crew of the A-26 were killed. Col. Gunn, the pilot parachuted to safety.

Holds Steamship Lines Should Have Air Routes

Almon E. Roth, president of the National Federation of American Shipping, believes that failure of the Civil Aeronautics Board to certify air routes to U. S. steamship companies will force domestic business into the hands of foreign competitors.

"The consequence of refusing steamship companies the right to use aircraft would be to deprive the public of a new, different and improved type of service," he stated in a speech before the Aviation Section of the New York Board of Trade. "If we tell the traveler that he may choose only between an American steamship service alone or an American aircraft service alone, and he prefers a coordinated sea-air service, we will drive him straight into the arms of our foreign competitors who offer the integrated service the traveler wants."

Michigan Air Transport Association Is Formed

Organization of the Michigan Air Transport Association for the purpose of promoting air transportation in the post-war period was accomplished at Lansing, Mich., last fortnight. The organization will function among municipal and civic leaders in aviation in a manner similar to state tax, water works and sewage disposal associations.

N. G. Damoose, director of city public utilities in Lansing, has been named chairman of a committee to draw up a constitution and by-laws. Other members of the committee are: Don Stewart, manager of the Traverse City Chamber of Commerce, E. J. Quick, chairman of the aviation committee of the Muskegon Chamber of Commerce, A. J. Koenig, city manager of Jackson and Carl H. Peterson, city manager of Saginaw.

It is believed that the Michigan association is the first of its kind to be organized.

All-Cargo Line Operating; H. Roy Penzell President

Formation of what is claimed to be the first and only commercial all-cargo airline set up to operate on a non-scheduled basis to any airport in the United States is announced by Air Cargo Transport Corp. at its main office in the Empire State Building, 350 Fifth Avenue, N. Y.

The company said it is now operating a fleet of especially designed twin-engined transports and, because cargo will be carried in each instance on a charter basis, can promise delivery on a time schedule as set forth in the agreement between shippers and the company.

H. Roy Penzell, president and treasurer, said he believes that this service will play an important part in the prospective post-war development of transporting large quantities of merchandise by air.

William L. Rome, formerly traffic manager at Miami for TACA Airways System, will act as secretary and general traffic manager of Air Cargo Transport Corp.



"You're an Angel...with wings!"

Ambulances fly in this war, and their flight brings swift evacuation of the wounded from the areas of front line danger. And because ambulances fly, the wounded are minutes, not days, from the clean sterile mercy of base hospitals.

Flying ambulances lend wings to the skills of doctors and nurses. For doctors and nurses and medical equipment go with the wounded in these hospital wards of the air. The skill of aeronautical engineers and medical science have thus combined to save lives and bring swift mercy.

Fairchild ingenuity, for example, gave the Army Air Forces the "Packet"—a plane in which men and machines can be carried into battle. But the "Packet" is a ship of mercy too, convertible in a few minutes to

a plane ready to receive the victims of enemy action.

Known to the Army as the C-82, the long-range "Packet" can carry 34 litter cases, four attendants, and medical supplies. Cramped quarters do not hamper nurses ministering to the wounded. An ingenious litter suspension affords ample room for movement. So successful is this strap-suspension device, developed by Fairchild engineers, that it has become standard equipment on all types of planes used as flying hospitals.

Versatile in its applications, the "Packet" can do double duty as a mercy ship. It can carry the wounded from front line evacuation fields over long distances to base hospitals. Returning to the forward areas, it can carry up to nine tons of supplies needed at the front lines.

Fairchild Aircraft

Division of Fairchild Engine & Airplane Corporation, Hagerstown, Maryland

THE ARMY NEEDS NURSES

—JOIN NOW!

Conversion of C-47 to Glider Opens New Vista

XCG-17 Can Be Towed At Speeds Up to 290

By SYDNEY CARTER

THE RECENT Army announcement that not only has the C-47 been successfully converted into a high-performance, high payload glider, but that at the same time a technique has been developed whereby two C-47s in tandem can be used as tugs during take-off and climb with the lead aircraft, then casting off and the other pulling the glider to its destination, has opened many new possibilities as to the potential use of gliders in commercial air transport.

Engineers who have been following glider operations with an eye to their application to commercial transport told American Aviation last week that the conversion of the C-47 into the XCG-17 not only provides a higher performance glider than has been available heretofore, but also offers a prospect that this equipment will be available at less cost than might be expected normally, since there is a good chance that once the Pacific war has ended, a large number of these twin-engine transports will be declared surplus.

The XCG-17, as the C-47 conversion is designated, can carry a seven-ton payload, and can be towed at speeds up to 290 mph as compared to the present 200 mph limit for conventional gliders. It has a long, flat glide angle of 14 to one as compared to a 10 or 12 to one ratio for the conventional CG-4 Army glider, and the remarkably low stalling speed of 35 mph as compared to 55 mph for the CG-4. Further, it is reported to be the only AAF cargo glider requiring no ballast when flown at minimum weight conditions.

The C-47-XCG-17 conversion, which was accomplished by engineers of the Air Technical Service Command, involves no major structural changes to the aircraft—in fact, the engineers undertaking the conversion were specifically prohibited from making any changes that would prevent reconversion to a powered aircraft. Principal changes are the removal of the engines and certain other equipment items, and the replacement of the former with streamlined fairings. Even the problem of attaching the tow line was overcome by the simple expedient of replacing an inspection plate in the belly of the plane with a new plate incorporating a special bracket.

The "tandem-tow" arrangement utilizing two C-47s to provide assisted take-off and climb was developed as a by-product of the conversion experiments, and was successfully demonstrated when two of the transports were used to launch a fully loaded CG-10, the Army's largest conventional glider, and then after altitude was reached, one C-47 was cut loose and the other pulled the glider to its destination.

Among the possibilities forecast by transport engineers for postwar commercial operations are the use of the XCG-17 both to increase the cargo carrying ability of the C-54 and thus reduce ton mile costs, and as a means of providing passengers with a smoother and more comfortable ride than can be obtained with



The XCG-17, Army glider conversion of the C-47, has a 14 to one glide angle—even flatter than that of the conventional CG-4. On the tow-line the XCG-17 is the only AAF cargo glider which requires no ballast when being pulled at minimum weight. The tow-line is attached to a special bracket incorporated on a plate replacing an inspection plate in the belly of the powered aircraft.

conventionally powered aircraft.

One engineer estimated that a single C-54, particularly with assisted take-off, should be able to tow two fully-loaded XCG-17s without any difficulty while carrying at least two-thirds of its normal payload, and maintaining a cruising speed of about 160 mph. The net effect of this, he pointed out, would be to more than double the payload of the C-54 while adding only the salaries of the two glider pilots, a moderate increase in fuel consumption as a result of the reduced speed, and depreciation and maintenance of the gliders to the operating expense, which should result in a substantial lowering of ton mile costs.

His estimates of the performance and abilities of the C-54 glider combination, he said, were based on the fact that a C-47 carrying 21 paratroopers and their equipment can today tow two CG-4 gliders each carrying 15 paratroopers with equipment. Yet the CG-4 presents far greater drag in proportion to its size than does the C-47 conversion.

Possibilities of carrying passengers in gliders where they would be entirely removed from the engine noise and vibration of the powered aircraft are even more interesting. Maj. Halsey R. Bazley, president of All American Aviation, Inc., told AMERICAN AVIATION that he believes that the carrying of passengers in gliders is both safe and practical, although he admitted that it will probably take some education to convince the public of this fact. Some Army airborne troops have complained of the noisiness of gliders, but this is primarily due to the "ex-

pensible" construction of military gliders, and should not be present in the C-47 conversion which must necessarily be quieter without engines and propellers than it is as a powered aircraft.

Looking further still into the future to the day when some manufacturer designs an aircraft specifically to serve as a glider tug, something which has not been done up to the present, transport engineers see the tug and glider combination as a possible solution to the whole question of wing loadings and stalling speeds and their relation to passenger safety. They point out for example that the tug could be designed with a high wing loading, low power loading and if necessary high landing speed, and be limited to cargo as far as payload was concerned. All passengers would be carried in gliders such as the XCG-17 which would be cut loose for landing and thus not affected by the characteristics of the tow plane. In the event of a forced landing they would even be safer than in present day powered transport in that the glider could drift in at a mere 35 mph. Thus the efficiency of operation inherent in high wing loadings could be combined with the added safety of low wing loadings in a single transport unit.

Multi-Engine Trainer

The first multi-engine airplane ever made into a "captivair" transitional trainer is being readied by the special devices manufacturing division of Grand Central Airport Co., Glendale, Calif. "Captivair" is the Army's coined expression for an airplane that is made captive on the ground for training purposes.

Engineering Preview

Military Aircraft Data Gives Over-all Picture For Airlines in Market

(The material on Pages 76 and 77 was prepared for AMERICAN AVIATION by Capt. Ralph E. Lee, Magazine Branch, Air Technical Service Command.)

THE TOTAL NUMBER and some of the performance characteristics of transport aircraft now in use by the Armed Forces remains a military secret. However, it is obvious that airlines, contract fliers, private industry, and municipalities will absorb a large number of non-combat planes when they are made available, and will be interested in their performance data and vital statistics.

The accompanying data is by no means complete on any particular aircraft, but will give a valuable over-all picture of the important cargo and transport types now in every day use by the AAF. There are a number of transport models, not shown in these charts, which were produced in small quantities for some special military purpose, or which remained largely in the experimental stage. Also, there are several smaller types, such as the C-47, Stinson, Howard and others, with which the flying public is generally familiar and which would be of little interest to carriers who intend to do business on a large scale or private owners who plan to carry considerable loads.

The accompanying performance figures are based on information obtained in flight by Air Technical Service Command, Wright Field, unless otherwise stated. These are conservative, average figures and not manufacturers' guarantee. All data includes service allowances based on theatre experience. Individual aircraft may vary appreciably due to age and service changes. Take-off and landing distances are 125% of optimum at 3000 ft. on hard surface, no wind, standard temperature. Weights are basic weight plus crew, oil, fuel, cargo. Range and endurance are based on the following assumptions: Allowance for warm-up taxi, run-up, take-off, and landing (equal to 10 minutes at rated power), allowances for fuel consumed in climb; allowance for 10% net ideal range and endurance for miscellaneous differences in airplanes, equipment, pilot technique, atmospheric conditions other than wind, unusable fuel, weight and similar variables.

Load information is limited, in some cases by military restriction and in others because of the multitude of cargo or passenger arrangements that can be made. The Douglas C-47, for example, has several model designations by letter with many more numbered sub-denominations which indicate different passenger arrangements, paratroop accessories, radio equipment, instrument changes, etc.

For those who are "in the market" for the transport types mentioned, the information given in the charts will give an idea of what will be readily available when the last shot is fired. Present plans for disposal of surplus transport types vary from week to week. However, the smaller "UC" (utility) types are now being auctioned or sold outright with price tag attached.

THE use of radio controlled lightplanes for familiarization solo flights is a decided possibility for the immediate postwar period. And the day when you will be able to get into an aircraft, have the tower take you off, assume control in the air while en route to your destination, and then return control to the tower for landing is much closer than most people realize.

Look for an increased use of flash and spot welding as a means of getting the price down on postwar private aircraft. These techniques have only limited military application because of their unadaptability to field repair, but in civilian aviation this will be overcome by making factory-built replacement assemblies available at even less cost than the normal field repair job.

Wood construction is also due for a comeback in the lightplane field. While variable densities in the wood itself and the tendency to absorb and lose moisture under varying climatic conditions resulting in overall weight deviations of as much as 35 percent offer a seemingly insurmountable obstacle in the application of plywood to large aircraft, these problems can be overcome in the lightplane, according to one manufacturer with considerable wartime experience. This same manufacturer uses plywood bonded with urea rather than phenolic resins to simplify forming procedures.

Two recent announcements suggest that the practical utilization of gliders snatched up by flying aircraft as part of the commercial air transport picture is just around the corner. The first is the rescue of the Shangri-la air crash survivors by means of pick-up equipment designed and manufactured by All-American Aviation, Inc.; the second a report that CG-4A cargo gliders produced at the Ford-Iron Mountain plant are being delivered on regular schedule by the "snatch and fly away" method.

Operational trainers such as the Navy is now using to train flight crews for PBMs and other combat types may provide the answer to retraining combat pilots for airline duty. According to some estimates, the trainer will do the same job as an actual aircraft at about one tenth the cost once the original installation is written off. A possibility is that the trainer could be built and operated by the aircraft manufacturer, with a single trainer at any one airport thus being available to all airlines. The same trainer could be used for route and instrument checks.

Landing gear weight of one 300,000 to 320,000 lb. project now in the works is said to amount to 13 percent of the total weight empty of the aircraft. While the project has not been identified, the only landplane known to be in prospect which approaches that size is Consolidated Vultee's Model 37.

Lear, Inc. is reported to have developed an automatic pilot for personal aircraft which weighs only 60 lbs. Culver is also rumored to be working on a lightplane autopilot, but whether it will be available for other than its own aircraft is not yet known.

An alternate outer wing panel somewhat shorter than that on the Navy JRM may be provided for the postwar commercial Mars, which will also probably be equipped with provisions for jet assisted takeoff. Still another possibility is a return to the high-altitude pressurized cabin of the original prototype.

The next logical step toward further simplification in the postwar Ercoupe would appear to be foot brakes, and a foot operated throttle to simplify taxiing, landing and taking off. The foot throttle would also supply immediately available power in case of a misjudged landing, and a simplified hand throttle could be retained for cruising flight.

The assumption that surfaced runways will be essential to withstand the expected high traffic at postwar airports and private flying fields is not necessarily true. Cessna Aircraft's company field in Wichita, where many types have been test flown, has turf runways as do those of Engineering & Research Corp. and many other manufacturers.

While at least two manufacturers are experimenting with caster landing gear at the request of the CAA, they are not too excited as to its possibilities. The reason is that the main advantage of the caster type gear is for crosswind landings in winds of from 20-40 mph. Most lightplanes shouldn't be flying under such conditions anyway.

A cabin pressure regulator now ready for commercial use will make it possible for an airliner to fly from the sea level San Francisco airport over the 11,000 ft. Sierra Nevada range to the 4,400 ft. Reno airport without the cabin altitude ever rising above 4,400 ft. What's more the rise will be a gradual one, prorated to the flight time between the two airports. Known as the Variable Isobaric cabin pressure regulator, it was designed by AirResearch Manufacturing Co., which perfected and produced the regulator now being used on the B-25.

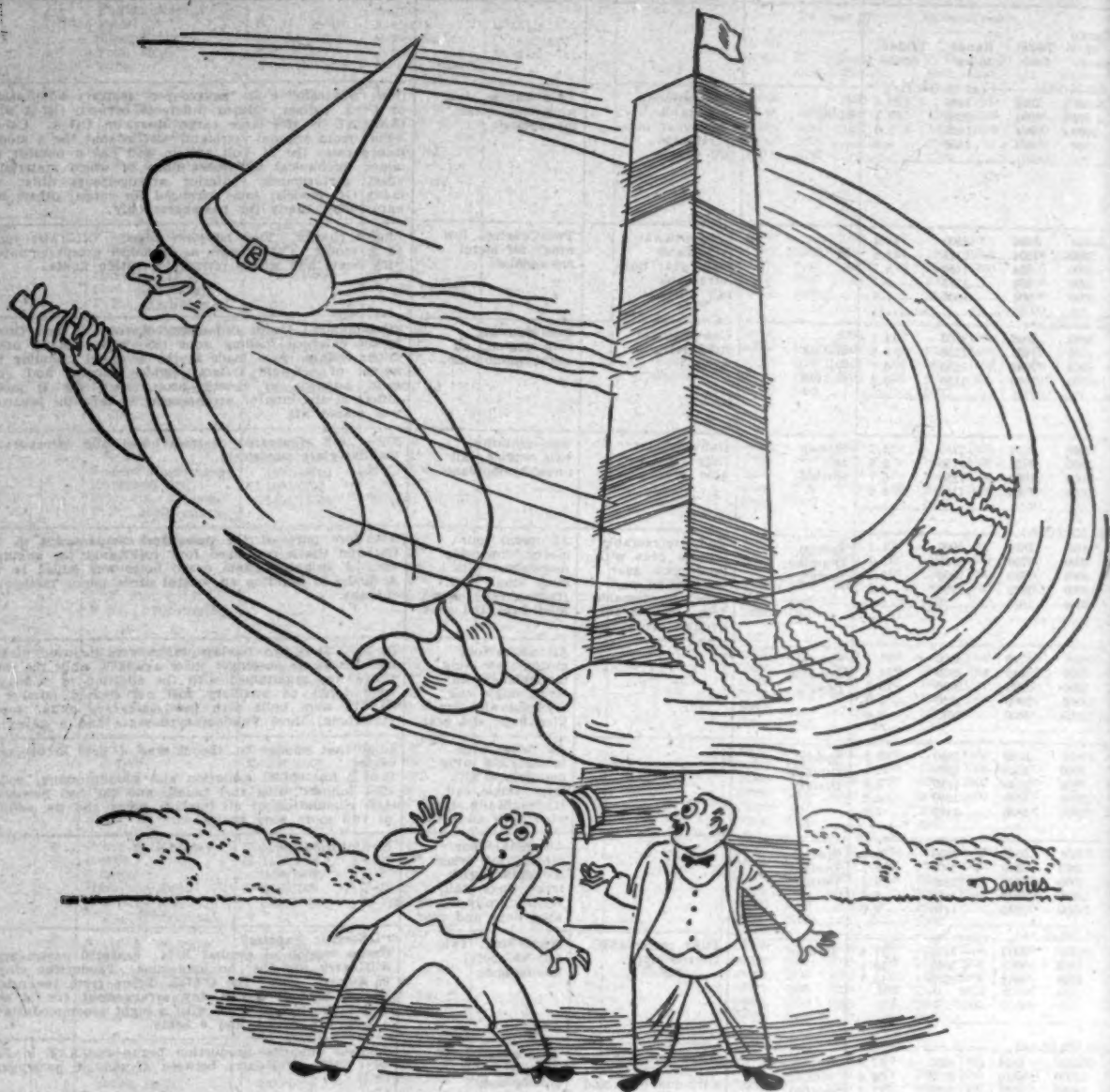
SYDNEY CARTER

Model & Block No.	Engine & Prop			Size	Weight	Service Ceiling	Take Off & Landing hard surface—no wind				Max. Continuous Power			[At]	
	No.	Engine Mfg. Model Supercharger Prop Mfg. Type	B. H. P./alt. T-take off M-military C-continuous				To clear 50'		Ground run		Std. alt. ft.	Rate of climb ft./min.	High speed (At 24,000 lbs.)		
							Gross weight	T. O. Land dist.	Land speed	T. O. Land dist.					
D-47-A D-48-C D-49-D	2	Pratt & Whitney R-1830 Integral Super. Hamilton Std. 11 7/8" dia. 3 bl. F.F., hydromatic	T-1300/S1 M- C-1050/7500	S-95' 0" L-64' 8" H-17' 0" T-18' 0" W-987 Sq. ft.	B-18200 C-26000 M-29900	24000	20000 24000 28000 32000 31000	2000 2000 2400 2700 3700	70 74 76 78 2300	1500 1500 1600 1800 2300	S. L. 5000 5000 10000 15000 20000	925 1110 990 690 300	300 310 320 320 330	20000 20000 20000 20000 20000	
D-47-B-DK D-47-B-DL	2	Pratt & Whitney R-1830 2 stage 2 speed Hamilton Std. 11 7/8" dia. 3 bl. F.F., Hydromatic	T-1300/S1 M-1050/11000 C-1100/9000 1000/13000	S-95' 0" L-65' 0" H-16' 11" T-19' 0" W-987 Sq. ft.	B-18200 C-26000 M-29900		20000 24000 28000 32000 31000	2100 2400 2800 3300 3800	74 76 78 1500 2300	1300 1500 1700 2000 2300	S. L. 5000 10000 15000 20000 25000	1170 1090 940 730 490	310 310 320 330 330	20000 20000 20000 20000 20000	
D-48-A & D	2	Pratt & Whitney R-2000 2 speed Single Stage Curtiss 15" dia. 4 blade Full Feathering Elec.	T-2000/S1 M-2000/1500 C-1000/5700 1450/19000	S-108' 0" L-76' 4" H-23' 0" T-28' 0" W-1390 Sq. ft.	B-31500 C-46000 M-49000	over 25,000	34000 38000 40000 45000 50000	1900 2200 2500 2700 3400	82 88 94 96 2800	1200 1400 1500 1600 2000	S. L. 5000 5000 10000 15000 20000	795 797 625 525 285	215 230 240 245 237	20000 20000 20000 20000 20000	
D-48-E	2	Pratt & Whitney R-2000 2 speed single stage Hamilton Std. 15 1/2" dia. 3 blade F.F., Hydromatic	T-2000/S1 M-2000/1500 C-1000/5700 1450/13000	S-108' 0" L-76' 4" H-23' 0" T-28' 0" W-1390 Sq. ft.	B-31700 C-46000 M-49000		34000 38000 40000 45000 50000	1900 2200 2500 2700 3400	82 88 94 96 2000	1200 1400 1500 1600 2000	S. L. 5000 10000 15000 20000	795 797 625 525 285	215 230 240 245 237	20000 20000 20000 20000 20000	
D-54-A	4	Pratt & Whitney R-2000 2 speed Hamilton Std. 15 1/2" dia. 3 bl. F.F., hydromatic	T-1350/S1 M-1350/2000 C-1000/14000	S-117' 0" L-65' 10" H-27' 0" T-24' 0" W-1400 Sq. ft.	B-37000 C-73000 M-78000	over 20,000	40000 50000 55000 60000 65000 73000	1900 2200 2500 2800 3200 5000	80 90 95 1800 2200 2900	1300 1800 1800 1900 2400 2900	S. L. 5000 5000 10000 15000	700 640 625 490 280	215 244 237 230 230	20000 20000 20000 20000 20000	
D-54-B	4	Pratt & Whitney R-2000 2 speed Hamilton Std. 15 1/2" dia. 3 bl. F.F., hydromatic	T-1350/S1 M-1350/2000 C-1000/14000	S-117' 0" L-65' 10" H-27' 0" T-24' 0" W-1400 Sq. ft.	B-39400 C-79000 M-78000		40000 50000 55000 60000 65000 73000	1900 2200 2500 2800 3200 5000	80 90 95 1800 2200 2900	1300 1800 1800 1900 2400 2900	S. L. 5000 5000 10000 15000	700 640 625 490 280	215 244 237 230 230	20000 20000 20000 20000 20000	
D-54-E and D	4	Pratt & Whitney R-2000 2 speed Hamilton Std. 15 1/2" dia. 3 bl. F.F., Hydromatic	T-1350/S1 M-1350/1000 C-1100/7500 1000/17000	S-117' 0" L-65' 10" H-27' 0" T-24' 0" W-1400 Sq. ft.	B-38800 C-79000 M-73000		40000 50000 55000 60000 65000 73000	2400 2900 2700 3400 4300 5700	80 90 95 3500 2500 3300	1400 1800 1800 2200 2500 3300	S. L. 5000 5000 10000 15000 20000	770 710 640 440 250 280	281 244 237 230 237	20000 20000 20000 20000 20000	
D-54-G and J	4	Pratt & Whitney R-2000 2 speed Hamilton Std. 15 1/2" dia. 3 bl. F.F., Hydromatic	T-1450/S1 M-1450/1000 C-1100/7500 1000/17000	S-117' 0" L-65' 10" H-27' 0" T-24' 0" W-1400 Sq. ft.	B-40000 C-73000 M-73000		40000 50000 55000 60000 65000 73000	2400 2900 2700 3400 4300 5700	80 90 95 3500 2500 3300	1400 1800 1800 2200 2500 3300	S. L. 5000 5000 10000 15000 20000	770 710 640 440 250 280	281 244 237 230 237	20000 20000 20000 20000 20000	
D-57 & D-57-A	4	Pratt & Whitney R-1830 Turbo-supercharger Hamilton Std. 11 7/8" dia. 3 bl. F.F., Hydromatic	T-1200/S1 M-1200/36000 C-1100/27000	S-110' 0" L-60' 4" H-18' 0" T-25' 0" W-1048 Sq. ft.	B-33000 C-58000 M-56000	over 20,000	39000 40000 45000 50000 58000 62000	2100 2500 2900 3200 4300 5000	87 90 95 100 105 2800	2000 2300 2400 2600 3300 3800	S. L. 6000 10000 15000 20000 25000	1000 950 890 800 650 300	289 288 275 287 300	20000 20000 20000 20000 20000	
D-58	4	Wright R-3350 Single speed Hamilton Std. 15 1/2" dia. 3 bl. F.F., Hydromatic	T-2200/S1 M-2200/5000 C-2000/5000	S-123' 0" L-85' 2" H-23' 0" T-25' 0" W-1650 Sq. ft.	B-50500 C-83000 M-88000	20,000 to 35,000	55000 70000 75000 80000 90000	2400 2300 2700 3100 4500	84 91 92 2100 3000	1100 1500 1800 2100 3000	S. L. 5000 5000 10000 15000 20000	1700 1500 1080 620 225	304 288 275 317 308	20000 20000 20000 20000 20000	
D-57	4	Wright R-3350 Hamilton Std.	T-2200		76,000 lbs. empty 120,000 lbs. Gross									Over 250 mph	
D-59	2	Pratt & Whitney R-2800 Integral Hamilton Std. 15 1/2" dia. 3 bl. F.F., Hydromatic	T-2100/S1 M-2100/1000 C-1700/7000 1450/19000	S-106' 5" L-75' 10" H-26' 4" T-25' 0" W-1400 Sq. ft.	B-28500 C-42000 M-42000	24,000 at 49000 lbs.	30000 35000 43000	1800 2000 3000	83 85 91	1100 1200 1400	S. L. 5000 10000 15000 20000	1200 1250 900 560	306 215 210 186	20000 20000 20000 20000	
D-60A	2	Wright R-1830 2 speed Hamilton Std. 10 5/8" dia. 3 bl. F.F., Hydromatic	T-1200/S1 M-1200/5700 C-3000/8400 900/10500	S-95' 0" L-64' 10" H-15' 0" T-15' 4" W-551 Sq. ft.	B-18000 C-21000		14000 17500 18500 21000 23000	2150 2500 2700 2850 3300	61 65 70 79 1900	1700 2100 2200 1150 1900	S. L. 5000 10000 15000 20000	1200 1300 1000 600	235 247 255 282 255	20000 20000 20000 20000 20000	
O 45F	2	Pratt & Whitney R-2800 Integral Hamilton Std. Constant speed	T-2450/S1 M-none C-480/S1	S-97' 0" L-84' 3" H-19' 8" T-19' 11" W-349 Sq. ft.	B-3000 C-7850 M-7850	20,000 at 3727 lbs.	6500 7000 8000 8725	1100 1100 1950 2100	56 58 62 1400	1250 1400 1400 1400	S. L. 5000 10000 15000 20000	1250 1250 900 560	306 215 210 186	20000 20000 20000 20000	
O 61A	1	Pratt & Whitney R-1340 Integral Hamilton Std. Constant speed	T-600/S1 M- C-550/5000	S-81' 0" L-35' 4" H- T-9' 1" W-325 Sq. ft.	B-3000 C-7400 M-7400	18,500 at 7400 lbs.	7450	1665	3250	68					20000 20000 20000 20000
O 75 & O	2	Jacobs R-755	T-245/S1 C-235/S1	S-91' 11" L-35' 5" H- T-12' 7" W-395 Sq. ft.	B-4800 C-8700 M-5700	15,000 at 5850 lbs.	5850 5900	1700	1400	67					20000 20000 20000 20000

AMERICAN AVIATION, August 1, 1945

Cruise Data* (At Maximum Cruise Power)					Flaps	Landing Gear	Structural Features	Special Features and Outstanding Model Differences
Take off weight	Cargo or pass.	Total fuel	Range miles	Endur. hrs.				
(at 10,000 ft.)								
2000	None	1604	2400	20.5	Split	Conventional-retractable main gear non-retractable tail wheel.	Twin engine, low wing, all metal monoplane	C-47 "Skytrain" C-53 "Skytrooper" military adaptation of DC-3 airliner. Major differences between C47-A and C-53-O&D is the large cargo door on C47-A. C47-A differs from original "straight" C47 in that the A model incorporates the 24 Volt system and has a number of minor mechanical differences none of which materially effect performance. Interior arrangements differ on many C47 models; some arranged for cargo, others for paratroops, many for passengers only.
2000	300	1004	2200	12.4				
2200	5000	804	1525	9.0				
2100	6700	804	1450	8.6				
2000	None	1604	2300	18.4	Split	Conventional-retractable main gear non-retractable tail wheel.	Twin engine, low wing, all metal monoplane	Engine change. Fuel boosters added. Otherwise same as A model. C47-C same as B model except equipped with floats and wheels retractable within floats.
2000	2500	1204	2175	13.8				
2000	1700	804	1450	8.7				
2000	5000	804	1375	9.1				
2000	6700	804	1200	7.6				
2000	2000	2202	2750	14.7	Sliding rail slotted	Conventional fully retractable	Semi-midwing, twin engine, all metal monoplane.	"Commando" Major difference between C48 and C48-A is the enlarged loading door (96" wide). Many other minor changes were made in the A model including removal of tell-tale system, rudder booster and gust lock, addition of electric prop, etc. The D model differs in the interior arrangement in that the lavatory was placed aft.
2000	4000	1402	1750	9.3				
2000	6000	1060	1250	6.7				
2000	10000	1060	1150	6.2				
2000	2000	2202	2750	14.7	Sliding rail slotted	Conventional fully retractable	Semi-midwing, twin engine, all metal monoplane.	The C48-E eliminated controls boost and incorporated the flat-glass windshield.
2000	4000	1402	1750	9.3				
2000	6000	1060	1250	6.7				
2000	10000	1060	1150	6.2				
2000	None	3630	4000	21.1	Special Douglas Design	Fully retractable tricycle gear with dual main gear wheels and nose wheel is steerable from cockpit for ground operation.	All metal four motor, low wing monoplane with large single tail. Hydraulically operated flaps and gear.	The fore part of the passenger compartment in the C54 and C54-A contained four fuel tanks for auxiliary use. A swinging boom cargo hoist was added to the A model in addition to several other minor mechanical changes.
2000	8000	2720	2750	13.7				
2000	9000	1820	2050	10.8				
2000	14000	1820	1700	8.3				
2000	22000	1820						
2000	None	3740	4000	21.4	Special Douglas Design	Fully retractable tricycle gear with dual main gear wheels and nose wheel is steerable from cockpit for ground operation.	All metal four motor, low wing monoplane with large single tail. Hydraulically operated flaps and gear.	In the C54-B two fuselage tanks were removed making more cargo or passenger space available while the ship's range was maintained with the addition of 2 integral wing tanks as auxiliary fuel. A limited number of C54-C's were built with new emergency exits, special stateroom, three Pullman type seats and a galley.
2000	7300	2940	2850	14.1				
2000	7300	2000	2050	10.4				
2000	13300	2000	1850	9.0				
2000	21300	2000	1675	7.8				
2000	None	3520	3850	19.8	Special Douglas Design	Fully retractable tricycle gear with dual main gear wheels and nose wheel is steerable from cockpit for ground operation.	All metal four motor, low wing monoplane with large single tail. Hydraulically operated flaps and gear.	Important change in the D was a new E-2000 series engine. C-54-E has cabin insulation and soundproofing, collapsible inboard wing fuel tanks, and the fuel flowmeter. Also elimination of all fuselage tanks and the addition of two more wing tanks.
2000	7000	2540	2500	12.7				
2000	7000	1840	1825	9.5				
2000	13000	1840	1650	8.2				
2000	21000	1840	1475	7.2				
2000	None	3520	3850	19.8	Special Douglas Design	Fully retractable tricycle gear with dual main gear wheels and nose wheel is steerable from cockpit for ground operation.	All metal four motor, low wing monoplane with large single tail. Hydraulically operated flaps and gear.	No information.
2000	7000	2540	2500	12.7				
2000	7000	1840	1825	9.5				
2000	13000	1840	1650	8.2				
2000	21000	1840	1475	7.2				
2000	None	2814	3150	17.4	Fowler	Fully retractable, tricycle type.	High wing, twin tail all metal monoplane.	"Liberator Express" Cargo version of combat B-24. Seats 30 passengers or will carry 6000 lbs. on long runs. Production stopped in August, 1944. The C-57-A differs from the original C57 in that it has a day arrangement for 16 single and Pullman type seats with a night accommodation of 5 complete berths and 9 seats.
2000	2500	2814	3025	16.8				
2000	8600	2814	2775	15.7				
2000	None	4816	4050	17.9	Improved version of slotted Fowler flap	Fully retractable, tricycle type gear with dual main and nose wheels.	Low wing, triple tail all metal monoplane	Limited quantity production begun for AAF in January, 1945. Will carry between 80 and 100 passengers.
2000	11000	4816	3775	16.6				
2000	14000	3175	2925	17.4				
Range 1000 to 4000 miles depending on load. Useful load up to 120 troops.								
2000	None	1900	2500	15.2	Slotted trailing edge	Fully retractable tricycle gear.	High wing, land monoplane with twin-tail boom.	Cargo version of Superfortress. Carries up to 120 troops. Range 1000 to 4000 miles depending on load. Holds West-East transcontinental record.
2000	5000	1070	1350	5.3				
2000	1450	1046	1450	0.3	Fowler	Retractable conventional.	Semi-midwing all metal monoplane. Twin tails.	"Lodestar" The C-60 and C60-A differ only in minor points while the C60-E switched to heated surface anti-icing rather than the conventional boot type. The C60-C is identical to the B with the exception of larger cargo doors and the addition of a fuel tank in the nose.
2000	5000	600	850	3.9				
2000	None	206	850	4.8	Conventional trailing edge	Conventional fully retractable. Electric.	Low wing, full cantilever, all metal monocoque monoplane. Twin tail.	C-45 -A 6 place personnel transport. C-45A-added fluorescent lighting & incorporated 28 volt system. C-45B-radio equipment changes (AT7 Navigational trainer). C-45C-Commercial Beech Model 18-B (11 place).
2725	1000	306	750	4.4				
2235	5 & 2	220	1155 at 144 mph		Conventional trailing edge	Conventional fixed landing gear.	High wing externally braced monoplane of conventional wood and steel tube fabric covered construction.	"Norseman"
2307	5 & 2	243	800 at 114 mph					
2430	0 & 2	130	470 at 114 mph					
2700	3 & 2	150	900 at 139 mph		Conventional trailing edge	Conventional retractable.	Low wing, fabric covered monoplane, single tail.	"Bobcat" UC 78B uses wooden props instead of metal constant speed. C model has 24 volt system.
2700	3 & 2	150	750 at 155 mph					
2700	3 & 2	150	650 at 155 mph					

* Shuttle Air Miles—No Winds—No Allowance for Reserve



“She’s practicing for the post-war cup races”

SPEED for speed’s sake will never lack for devotees. The quest for pure speed—the urge to see how fast we can fly—has some fascinating aspects.

But the practical aviation man is more interested in the ability of his plane to carry a payload of passengers or freight at relatively high speed, rather than in the setting of records.

From this angle of efficient and practical speed—combined with load-carrying ability—the large multi-engined bombing planes developed during the war have given us a foretaste of future commercial flying. What’s more, the trend to ever faster and larger planes can be continued as the possibilities of better than 100-octane gasoline are realized.

For, far from representing the ultimate in gasoline, 100-octane fuel has proved to be only a beginning. Just as our present wartime aviation is founded upon 100-octane aviation gasoline containing Ethyl fluid, so may post-war aviation be built upon Ethyl gasoline of so high an antiknock quality that some means other than the “octane” scale will be required to express it.

Ethyl Corporation

CHRYSLER BUILDING, NEW YORK CITY





ALL IN THE DAY'S WORK

A helicopter can easily hover low enough for pilot and passengers to talk with people on the ground nearby. The Kellett XR-8 helicopter, shown above, "stood still in the air" by the hour, at only *one foot altitude*, during its test period. When all was ready, restraining cables were loosed and its cross-country flying career began.

The XR-8 can fly forward, backward or sideways. It can rise or descend vertically, permitting take-offs and landings in any space large enough for safe clearance of its own blades.

Kellett has been active in the design of rotary wing aircraft—helicopters and autogiros—for over 16 years. More advanced models than the XR-8 are

on Kellett drawingboards and in Kellett workshops today.

The final word in helicopter design will not be written for some time to come. Many engineering problems must be solved before helicopters are brought into practical daily use. Progress already achieved, however, more than justifies the man-hours that must still be spent by Kellett and other organizations active in this field. Their objective is to make helicopters available for exacting travel and transport jobs, in areas and under conditions where no other air, land or water craft can operate.

Kellett Aircraft Corp., Upper Darby (Philadelphia), Pennsylvania.

KELLETT

Airworthiness Bulletins Discontinued by CAA; Only Directives Issued

Airworthiness Bulletins have been discontinued by the Civil Aeronautics Administration and will henceforth be consolidated with Airworthiness Directives under the latter heading, according to CAA Safety Regulation Release No. 182. Urgent information of the nature now covered in the Bulletins will be issued as supplements to the pertinent Directive, or where they cover corrections to items of equipment which cannot be identified with specific aircraft models, as Special Directives.

In the future, Airworthiness Directives will be given the same number as the type certificate for the pertinent aircraft model, with revisions being indicated by dash numbers.

Instead of Inspection and Special notes, the Directives will have Mandatory and Service notes. The former will be those with which aircraft owners must comply, and CAA inspectors will check all aircraft for compliance with these notes. Service notes will convey service information and precautionary advice for the benefit of owners, and may or may not refer to manufacturers' service bulletins. Inspectors will not check aircraft for compliance with these notes.

Release 182 further states that manufacturers should furnish five copies of all service bulletins to the Aircraft Engineering Office with which they normally deal. These bulletins will be reproduced by CAA for the use of its field personnel and will not be available from this source for distribution to owners. However, if manufacturers wish to inform owners that the information, whether Mandatory or not, contained in service bulletins is approved by CAA, it is satisfactory to indicate such approval in bulletins specifically approved by CAA.

A second CAA Safety Regulation Release, No. 183, contains new specifications for approved aircraft fabrics as shown in the following table:

Material	Minimum Tensile Strength*	Minimum Tearing Strength†	Threads Per Inch	Sizing, Finishing and Other Non-Fibrous Material Max. Percent	Maximum Weight Ounce per Sq. Yard	Fiber	Maximum Elongation Per Cent‡	Yarn
Grade CAA-1 For use on aircraft with wing loading of 9 psf or over, or never exceed glide or dive speed of 160 mph or over	80 lbs. per inch warp and fill	5 lbs. warp and fill	80 min. 84 max. warp and fill	2.5	4.5	Cotton	13 Warp 11 fill Under 70 lb. tension load	Optional Single or two ply Combed
Grade CAA-2 For use on aircraft with wing loading of less than 9 psf or never exceed glide or dive speed of less than 160 mph	65 lbs. per inch warp and fill	4 lbs. warp and fill	80 min. 84 max. warp and fill	2.5	4	Cotton	13 Warp 11 fill Under 57 lb. tension load	Optional Single or two ply Combed
Grade CAA-3 On gliders with wing loading of psf or less, or never exceed glide or dive speed of 135 mph or less	50 lbs. per inch warp and fill	3 lbs. warp and fill	110 max. warp and fill	2.5	3.5	Cotton	13 Warp 11 fill Under 44 lb. tension load	Optional Single or two ply Combed

* The tensile strength to be determined by the strip method of testing as outlined in Federal Specification CCC-T-191a

† The tearing strength to be determined by the strip-tear method of testing as outlined in Federal Specification CCC-T-191a

‡ Elongation to be determined during strip test

All American Interested in Spartan '12' As Pick-Up Plane, Says President Bazley

All American Aviation is definitely interested in the new Model 12 Spartan Executive, Halsey R. Bazley, president, told American Aviation last fortnight, stating that it appeared to be better suited to pick-up service than most other currently or soon to be available aircraft.

In designing the Model 12, Spartan has made provision to permit its conversion to a pick-up aircraft in less than a day through the installation of a bottom door; and by extensive use of magnesium and refinements in design such as stressed skin wing construction, the basic weight empty with standard equipment has been reduced to 2790 lbs. as against 2987 lbs. for the prewar Executive, while the design gross weight has been increased from 4400 lbs. to 4700 lbs. Resulting in a net gain in useful load of 497 lbs.

In the "standard" Model 12 which carries a radio transmitter and receiver and other equipment items, the weight empty of the passenger version is 2846.12 lbs., and of the cargo version with right front seat, rear seats, safety belts, baggage compartment installation and miscellaneous items removed, 2785.42 lbs. For pick-up service an operator's seat weighing 6.5 lbs., mail and express bins weighing 8 lbs., and an All American Pick-up winch and boom installation weighing 109 lbs. are added to give a pick-up weight empty of 2906.92 lbs.

Allowing for a pilot and operator at 170 lbs. each, 7.5 gals. of oil at 7.5 lbs./gal. and 132 gals. of fuel at 6 lb./gal. providing a range of better than 1,000 miles, this gives the Model 12 a payload capacity of 602.82 lbs. in pickup service. Since individual pick-ups are currently limited to 60 lbs., this would give the Executive a capacity of ten pick-ups without discharging any mail or express, and even this load could be increased as part of the fuel is used up.

Other aircraft which offer possibilities for pick-up service, according to Maj. Bazley, are the Bellanca Skyrocket and the Beech Expediter. The Stinsons cur-

rently in use, he said, have proven very satisfactory, but All American is reaching a point where it is outgrowing their limited capacity.

Northwest Develops New Auxiliary Fuel System

A new auxiliary fuel system which has been in the process of development for several years has just been demonstrated to inspectors of the Civil Aeronautics Administration by Northwest Airlines engineers.

Designed to substitute if necessary for either or both of the regular systems on a two engined transport, the auxiliary installation provides a direct flow of gasoline from the left main tank to the carburetor, and the entire installation consists of some additional plumbing and one electrically driven pump. It is intended to function if the regular fuel equipment develops trouble anywhere along the line, including selector valves, strainers or engine driven pump.

During the tests on a DC-3A transport, the new system was subjected to various conditions, including take-offs, both at normal levels and at altitude, and meter power operation during flight, with one or both of the standard fuel systems being cut out time after time, leaving the auxiliary to take over.

If approved by the CAA, the new system will be installed on all Northwest's twin-engined aircraft as an added safety measure. It will also be made available to the industry as a whole as a Northwest contribution to aircraft development.

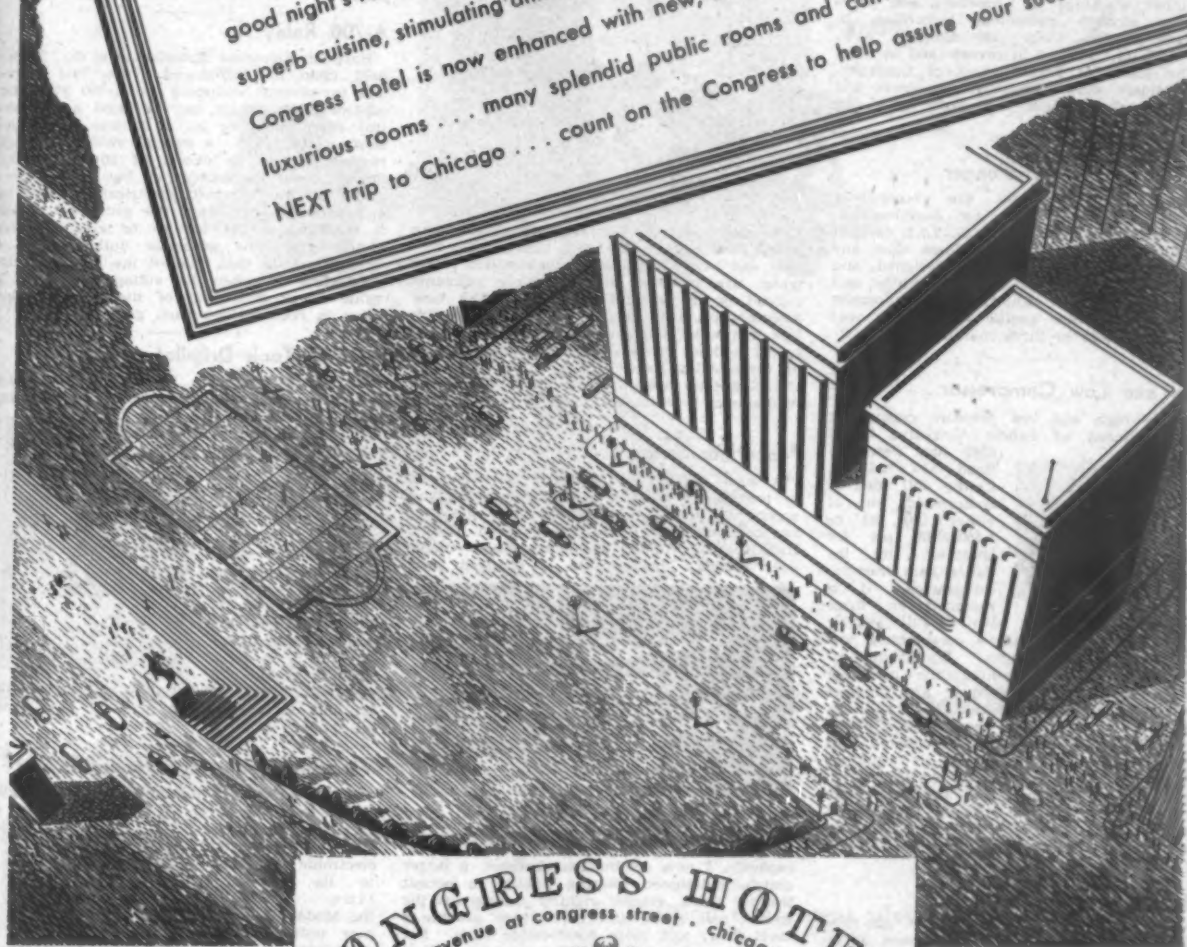
Hunter Joins Bretton Woods Group

Crroll Hunter, president of Northwest Airlines, is a member of the nationwide committee of businessmen and bankers recently formed to support the Bretton Woods Agreements. The group is known as the Business and Industry Committee for Bretton Woods, Inc.



Modern executives know EVEN A BUSINESS TRIP REQUIRES GRACIOUS LIVING

Success isn't always born in the conference room! It springs from relaxation... a good night's rest in sparkling, individually designed guest rooms, faultless service, superb cuisine, stimulating atmosphere. The world-famous hospitality of Chicago's Congress Hotel is now enhanced with new, smart elegance... 1000 spacious, luxurious rooms... many splendid public rooms and conveniences. On your NEXT trip to Chicago... count on the Congress to help assure your success.



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New Equipment

Transparent Training Manuals

New X-Ray instruction manuals can now be printed on transparent Lumarith to show



the inner workings of propellers and other complex aircraft equipment, according to Celanese Plastics Corp., 180 Madison Ave., New York 16. Printed in reverse and in color on the inside of folded pages of Lumarith, the manuals show not only the front and back of each machine, but each layer and section in detail.

40-Gal. Foamite Challenger

A new wheeled 40-gal. fire extinguisher now being manufactured by American-La-France-Foamite Corp., Elmira, N. Y., is claimed to deliver 50 per cent more foam than any other 40-gal. foam engine ever designed, and to produce a tougher, more tenacious and more lasting foam. Known as the Foamite Challenger, the new engine will deliver over 450 gal. of foam in three minutes.

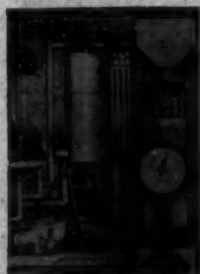
High and Low Compressor

A new high and low pressure compressor unit announced by Pacific Airmotive Corp.,

6265 San Fernando Road, Glendale, Calif., will deliver compressed air at either 100 psi or 1,500-2,000 psi for spraying, tire inflation and other requirements. It is mounted on three

16x4 pneumatic tires with a full swiveling front wheel, and has a combination tow hitch and manual tongue. Equipment includes high pressure de-humidifier container for 2,000 lb. working pressure; low pressure air receiver with safety valve; high and low pressure valves; high and low pressure gages; air adapter valve and 20 ft. of coupled high pressure hose. The interstage is equipped with an adequate intercooling coil and mechanical water and oil trap, and the design incorporates a special finned aftercooler. Designated as the Model 2000 Aircraft Compressor unit, it weighs 650 lbs.

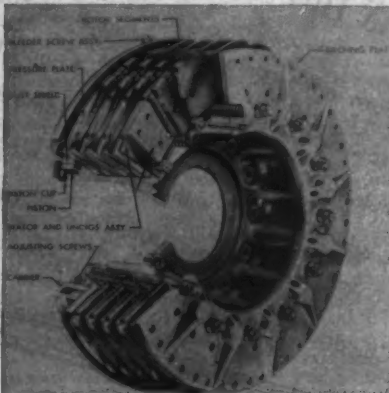
Test Stand Filter Kit



A new oil filter kit has been developed by Jacobson & Co., 345 East 45th St., New York, for the Air Technical Service Command to provide required oil pressures while overhauling engines on the test stand. The kit includes a 3 hp engine, filter assembly and two gages. The assembly will filter down to six microns.

Segmented Rotor Disc Brake

A new type of aircraft brake employing a segmented rotor disc instead of the conventional shoe type braking system is now in production at the Bendix Products division of Bendix Aviation Corp. In a test installation on a large experimental bomber, the new brake made possible a weight saving of more than 500 lbs. The assembly consists of three parts—the main carrier structure containing a hydraulic pressure chamber, piston and



hydraulic seal; the lining carrier members which are loosely keyed to the brake carrier; and heat absorbing elements called rotors which are installed in sections or segments instead of in a continuous ring. The new assembly provides greater braking force with less hydraulic line pressure, and can be adjusted without removing the wheels by means of three Allen head screws outside the carrier. Models range from a single disc 9 in. in diameter to a triple disc 31 in. in diameter.

Peacetime Jeep

A new postwar jeep which can be used to tow heavy transports around hangars and aprons as well as for many other purposes has been unveiled by Willys-Overland Motors, Inc., Toledo. Among the many improvements over military models are a changed gear



ratio permitting a speed range of from three to 60 mph, provisions for power take-off for stationary work, higher oil level, greater oil capacity, a new combustion chamber, a larger clutch, redesigned steering linkage to permit sharper turns, greater rigidity throughout the frame, rear shock absorbers which provide a level floor, and more comfortable seats. For aircraft service operators, the new jeep offers a combination of tug, delivery truck, passenger car and source of power combined in a single unit.

'Liquid Envelope' Coating

Liquid Envelope is a plastic protective coating manufactured by Better Finishes & Coatings, Inc., Newark, N. J. which can be sprayed on metal, wood or plastic surfaces to protect them during manufacturing, shipping and warehousing, and later peeled off in sheets. It can be furnished for hot spray, cold spray, hot dip, cold dip and brush application.

Plastic Air Ducts

Fiberglass-reinforced plastic air ducts are now being fabricated for Hughes Aircraft Co.



by Toyad Corp., Gardena, Calif. The plastics are easily formed, and lend themselves to fabrication of undercut, hollow and complex parts.

A-700 Relay

Hartman Electrical Manufacturing Co., Mansfield, Ohio, has introduced a new line of relays for aircraft including the A-700 generator control relay, which can be used as a control relay only, or as a control relay and starting contactor. A special switch prevents reverse current in excess of 20 amp. from flowing from the battery or bus to the generator of an aircraft electrical system by automatically connecting the generator, which it controls, to the battery or electrical bus system when the generator builds up to a voltage greater than that of the bus, and disconnecting it when its voltage drops to a value lower than that of the system. One relay is required for each generator.

Aircraft Tools Drilpilot

A new tool known as a Drilpilot which permits drilling and countersinking, drilling

and spotfacing, or drilling and countersinking in one operation is now being manufactured by Aircraft Tools, Inc., 750 E. Gage Ave., Los Angeles. Made of high speed steel, the body of the drill is 1/4 in. long with a 1/16 in. flute length, and the shank is .086 diameter and 1/2 in. long. Drilpilot comes in standard rivet sizes numbers 40, 30, 20, and 10; and can be used in place of any standard pilot.



Variable Frequency Generator

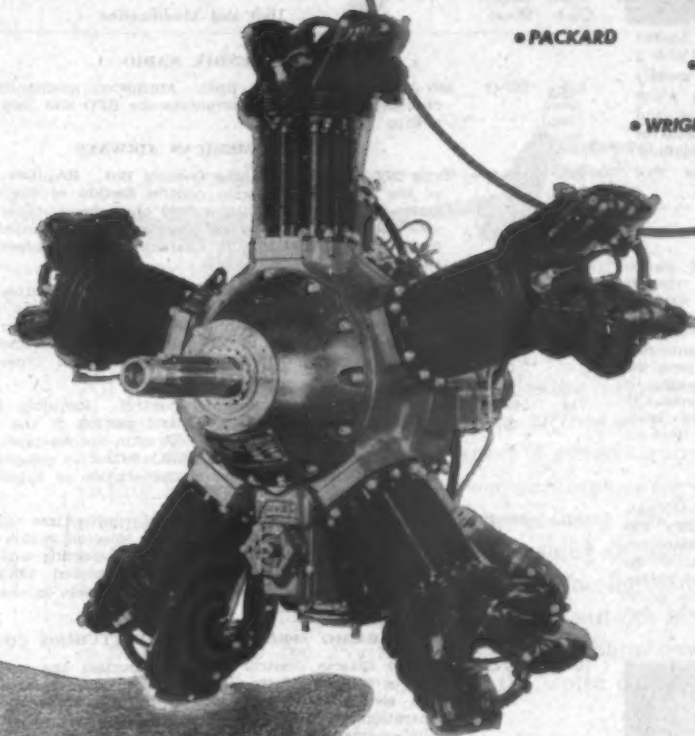
Radio-Television Institute, 480 Lexington Ave., New York 17, N. Y. had added a

variable waveform, variable frequency electronic generator to its equipment line. Designated the Model RL-1, the new unit embodies a means of maintaining constant R.M.S. output voltage while permitting variation of waveform and frequency. Output voltage is adjustable between 110 and 120 volts, and regulation of output voltage is better than 3 per cent from no load to 300 watts and for line voltage changes of from 110-120V AC. Units can be designed for other output voltage, power ratings and frequency ranges.



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No More Wrestling—Air scoop at TWA's Kansas City maintenance base are quickly repaired when held in this new jig which is built on a revolving turntable base, and can be turned to any position by means of a guide wheel-crank. Edward Maxfield, master mechanic, demonstrates the new device.

Air Operated Switch

A specially designed air operated switch which makes contact when a plane reaches 40 mph and breaks contact when the speed is reduced below that point is now being offered by John W. Hobbs Corp., Springfield, Ill., for use with its flight hour meter. The contacting mechanism is so designed that each time the switch operates, a slight rubbing motion is given to the contact points, automatically cleaning them. Base dimensions are 2x1 1/4 ins., and weight including two 8-in. lead-out wires is 1 1/2 oz.

Mobilgrease

A new spark plug anti-seize lubricant, now known as Mobilgrease Aero SP, has been developed by General Petroleum Corp., in cooperation with engineers of the Conrailway Division of Consolidated-Vultee. It is said to be easy to apply and to retain even distribution over the entire thread surface.



Cowling on a Spit—Master Mechanic Charlie Schiefelbein of TWA demonstrates a new revolving jig for holding cowlings during repair and overhaul. Turned on a revolving spit similar to that of a barbecue pit, the new jig permits the cowling to be held in any position, and makes the work more accessible.

List of Type Certificates Issued by CAA During June, 1945

No.	Manufacturer	Unit	Date
965	Bendix Radio, Div. of Bendix Aviation Corp.	Asimuth Control, Type MN-32JA	6-9-45
975	Bendix Radio, Div. of Bendix Aviation Corp.	Type TA-2JC Transmitter	6-25-45
979	Bendix Radio, Div. of Bendix Aviation Corp.	Type MR-64A Shockmount	6-11-45
980	Bendix Radio, Div. of Bendix Aviation Corp.	Type MR-36B Dual Audio Unit	6-11-45
991	Bendix Radio, Div. of Bendix Aviation Corp.	Type MN-35A Marker Receiver	6-28-45
993	Bendix Radio, Div. of Bendix Aviation Corp.	Type IN-5A Marker Beacon Indicator	6-14-45
994	Bendix Radio, Div. of Bendix Aviation Corp.	Type MR-66A Shockmount	6-15-45
999	Bendix Radio, Div. of Bendix Aviation Corp.	Type MT-34F Remote Control	6-9-45
1020	Rex Bassett, Inc.	Crystal Unit, Type 100	6-13-45
1021	Rex Bassett, Inc.	Crystal Unit, Type 400	6-13-45

List of Authorized Modifications to Type Certificates

Type Cert.	Data Sheet	Unit and Modification	Modification Authorized
BENDIX RADIO			
357	383-C	MEN-286 Remote Control Unit. Authorizes mechanical and electrical changes necessary to incorporate the BFO and loop rotator controls within the unit	6-30-45
PAN AMERICAN AIRWAYS			
763	440-B	Type CIE-D Pilot's Volume Control Box. Requires the replacement of the 4000 ohm RF gain control section of the dual sensitivity/ audio potentiometer with a 6000 ohm special-taper section to provide increased range of RF gain control to compensate for manufacturer's changes in the characteristics of types 12B7 and 14J7 tubes	6-15-45
784	464-A	Model CIE-E Pilot's Volume Control Panel. Requires the replacement of the 4000 ohm RF gain control section of the dual sensitivity/ audio potentiometer with a 6000 ohm special-taper section to provide increased range of RF gain control to compensate for manufacturer's changes in the characteristics of types 12B7 and 14J7 tubes	6-23-45
719	540-A	Model CIE-I Pilot's Volume Control. Requires the replacement of the 4000 ohm RF gain control section of the dual sensitivity/ audio potentiometer with a 6000 ohm special-taper section to provide increased range of RF gain control to compensate for manufacturer's changes in the characteristics of types 12B7 and 14J7 tubes	6-23-45
707	540-B	Model OCP-307 Transmitter Control. Authorizes the replacement of the 12-position frequency channel selector switch with a 24-position switch to provide a means for selecting any of the twenty-four frequency positions of an associated 75AX-12 transmitter employing dual adjacent frequency crystals in each of the twelve frequency channels	6-18-45
RADIO SPECIALTY MANUFACTURING CO.			
1013	617-A	1058-1-1 Quartz Control Unit. Authorizes the use of a 1 3/32" x 1 1/4" x 1/16" insulating plate in lieu of a quartz crystal between the electrodes of one section of the holder to provide proper operation of the unit as a single frequency control employing but one quartz plate in units of radio equipment in which neither pins No. 1 nor No. 3 may be short-circuited to pin No. 2	6-9-45
1017	620-A	1058-1-2 Quartz Control Unit. Authorizes the use of a 1 3/32" x 1 1/4" x 1/16" insulating plate in lieu of a quartz crystal between the electrodes of one section of the holder to provide proper operation of the unit as a single frequency control employing but one quartz plate in units of radio equipment in which neither pins No. 1 nor No. 3 may be short-circuited to pin No. 2	6-9-45

New Models Added to Old Type Approvals

(Approval numbers and dates of approval of new models in parenthesis)

Engines

Pratt & Whitney, model Twin Wasp 2SD1-G; 14 cyl. radial air cooled, 2:1 reduction gearing and two-speed supercharger. Rating: 1100 hp at 2350 rpm from sea level to 8300 ft. in low blower (7.15:1) and 1000 hp at 2350 rpm from 10,000 ft. to 17,700 ft. in high blower (9.32:1); Take-off, 1450 hp at 2700 rpm in low blower. Dry weight 1390 lbs. (Type Certificate No. 230, 6-15-45)

Propellers

Hartzell, model 667K; wood; 98 in. diameter; 60 in. to 54 in. pitch; 225 hp, 2100 rpm. (Type Certificate No. 631, 6-9-45)

Flottorp, models 86RA, 86RB; wood; 86 in. diameter, 70 in. to 54 in. pitch; 200 hp, 2450 rpm. (Type Certificate No. 817, 6-11-45)

Sensenich, model 80BA; wood; 60 in. diameter; 34 in. pitch; 50 hp, 3000 rpm. (Type Certificate No. 734, 6-16-45)

Sensenich, model 80DA; wood; 60 in. diameter; 41 in. pitch; 50 hp, 3000 rpm. (Type Certificate No. 734, 6-16-45)

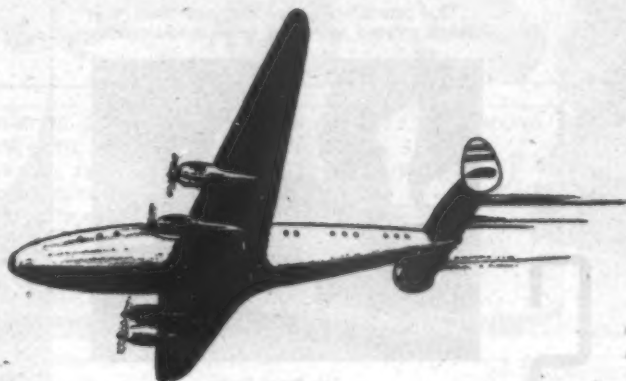
Sensenich, model 80HA; wood; 60 in. diameter; 28 in. pitch; 50 hp, 3000 rpm. (Type Certificate No. 734, 6-16-45)

Sensenich, models 86BA, 86BAC; wood; 86 in. diameter, 63 in. to 51 in. pitch; 200 hp, 2450 rpm. (Type Certificate No. 536, 6-30-45)

Appliances

American Airlines, safety belt, model CDS-4823. Approved for 1 person. (Type Certificate No. 107, 5-26-45)

Man to Man the world o'er



Air power consists of many things besides the instruments of war. Air transport is contributing to victory as surely as the combat forces. And air transport is aimed beyond victory towards a new world unity—a working system of international co-operation built on the war-time structure of the United Nations. For aviation is making the world a neighbourhood in fact. They are a great brotherhood, the air carriers. They are doing a great job, and not least in that corner of the Ayrshire plain where Burns trod, who first proclaimed that man to man the world o'er shall brothers be.

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Safety Fuel Resistant To Accidental Ignition

A new safety fuel which packs all the power of 100 octane gasoline, but is so resistant to accidental ignition that a lighted match can be dropped into it without causing a fire was recently demonstrated by technicians of the Standard Oil Co. (N. J.) and Pan American Airways.

In addition to providing an increased safety factor for normal operations, it is expected to increase the utilization of commercial aircraft by making refueling in mid-air practical for long range operation.

The practicability of the new fuel was demonstrated in recent tests conducted by



The Proof Test

Wright Aeronautical Corp. which indicated that on every score it delivered the same horsepower as the best high octane gasoline in use today. While safety fuel is designed for use in conventional type engines, it must be fed by direct injection rather than by ordinary carburetion unless suitable carburetors can be developed.

Engineers explained that this is due to the very quality that makes the new fuel safe—its high flash point. Safety fuel vaporizes at approximately 100°F., the same point at which kerosene vaporizes, whereas normal 100 octane gasoline vaporizes at around -40°F. It is therefore necessary to inject the fuel directly into the cylinder and vaporize it by the heat developed during compression, somewhat in the manner of the diesel engine, before firing it with the conventional spark plug.

Safety fuel is not a new development. Engineers of the Standard Oil Development Co. went to work on the project back in 1932. Further improvements were made in 1936, and the following year the Navy selected the new high flash aviation gasoline for testing all fuel lines, fuel pumps and fuel tanks on aircraft carriers before they were commissioned or while they were under repair.

About the same time the Army Air Forces began tests of the new fuel, but experiments revealed that the low volatility produced explosions as a result of incendiary hits, and this discouraged the adoption of the fuel for combat use.

War time technical developments both in the field of petroleum technology and in the designing of fuel injection systems, have, however, changed the safety fuel situation considerably. and Standard Oil is now confident that as soon as war demands permit, the safety fuel can be made available on a quantity basis and at a reasonable cost.



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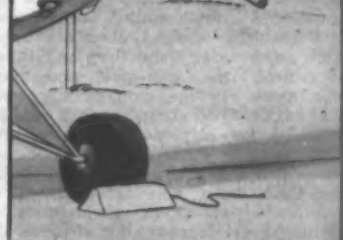
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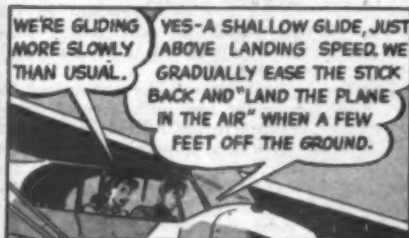
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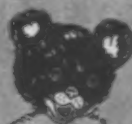
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OPA Suspends Price Controls Affecting Aircraft

Tires, Tubes, Castings Are Among Exceptions

THE Office of Price Administration has issued an order suspending price control with respect to aircraft and aircraft parts, with a few exceptions. At the same time, OPA issued a warning that if the general level of prices of these commodities increases as a result of this action, controls will be reinstated.

"Aircraft" includes both lighter and heavier than air craft. "Parts" were defined as any product upon which further fabrication need not be performed before its incorporation into the aircraft or a subassembly. The suspension from price control does not apply to such parts as airplane tires and tubes, die castings, iron and steel and manganese steel castings, non-ferrous castings, and plywood (except that molded specifically for airplanes.) Lumber requiring further fabrication is not exempt.

The OPA order was accompanied by the following statement of justification:

"Before Pearl Harbor, the airplane industry employed only 90,000 persons. At its peak, the industry employed some 2,150,000 persons. Thus, in terms of persons employed the industry expanded to 23 8/9 times its pre-war size. Cutbacks in airplane production have already reduced the number of persons

employed by the industry to 1,000,000 or less than one-half of the number of persons employed in the industry at the peak of its production. It is predicted that the industry will employ a maximum of 200,000 persons after the war.

"The expansion of the aircraft industry, in terms of increased facilities, has kept pace with its expansion in terms of persons employed. Thus, potential supply far exceeds demand. In view of this fact, it is the opinion of the Price Administrator that no inflationary price pressures exist in the aircraft industry.

"The aircraft parts industry, of necessity, kept pace with the increased production of aircraft. In fact, the expansion of the parts industries was even greater due to the fact that increased subcontracting was necessary in order to meet the greatly expanded demand. Thus, the disparity between supply and demand in the aircraft parts industries is in general even greater than that existing in the aircraft industry itself. Accordingly, the reasons given for suspending price control with respect to aircraft are equally applicable to the aircraft parts industries, with a few exceptions.

"Price control has not been suspended with respect to a number of specific aircraft parts. These are airplane tires and tubes, die castings, iron and steel castings, and non-ferrous castings. The capacity used in the production of these parts is usable for other purposes, and

demands in these areas far exceed supply. Accordingly, if price control were suspended with respect to these aircraft parts, inflationary pressures in these areas would become still greater.

"The Administrator has taken this action because it is apparent that this suspension will not effect increases in prices. However, price control with respect to these commodities has been suspended, instead of being terminated, in order that the Administrator may gauge the actual effect of the removal of price control on the aircraft and aircraft parts industries. If, as is expected by the Administrator, the general level of prices in these industries does not, in fact, increase, these commodities may be exempted from price control. However, if the general level of prices of these commodities increases, as a result of this action, controls will be reinstated."

W. A. DeRidder Succeeds Ray Ellinwood at Adel

William A. DeRidder has been elected president and general manager of Adel Precision Products Corp., Burbank, Calif. He succeeds Ray Ellinwood, resigned.



DeRidder

DeRidder has been a director of Adel since January, 1943. In 1920, he joined predecessor companies of General Metals Corp., Vernon, Calif., becoming president in 1937, a position which he will retain. Like Adel, the company is also owned by Transamerica Corp.

For postwar aircraft, he announced that Adel has under test with several private plane manufacturers, three new lightweight, hydraulic power packages used for raising and lowering landing gear and actuating landing flaps and other controls. Tooling is being completed on several Adel consumer products.

High Bidders Announced

The San Diego Mill Supply Co. and Aluminum Company of America are announced as the high bidders for B-32 "work in process" by Western District Headquarters of the Air Technical Service Command. The material includes pieces not considered usable for the B-32 contract at Fort Worth. More than two hundred applications to bid were mailed out.

Convair Combines Departments

The Fort Worth division of Consolidated Vultee Aircraft Corp. has combined 19 production departments into eight new units to effect a closer knit organization.

2-Place Mustang Trainers

A two-place trainer version of the Mustang designated as the TF-51 is now in production at the Dallas division of North American Aviation. The new Mustang is fully equipped with dual controls and instruments, and will be used for training Mustang pilots. The first ship was test flown recently.

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AAF Hopes to Maintain Standby Aircraft Plants

Would Be Designed For Rapid Wartime Expansion

THE Army Air Forces hopes to maintain standby aircraft plants on at least a partial operating basis to keep them adequately prepared for quick expansion in case of an emergency, according to a policy recently outlined by Brig. Gen. Edward M. Powers, assistant chief of air staff, Materiel and Services, AAF. Such plants preferably should be operated by aircraft manufacturers, he said.

Gen. Powers' statement, in part, follows:

"... The Army Air Forces strongly favors partial peacetime utilization of reserve productive capacity in order to maintain the production know-how of workers and management and to keep up the community facilities and the system of suppliers and subcontractors.

"Since it is worse than useless to stockpile airplanes as a war reserve, we are interested simply in providing a reserve of productive capacity of a specialized type. Our concern is, therefore, for the preservation of special characteristics such as broad assembly aisles and high clearances in airframe plants, and in the case of engine plants we are primarily interested in test cells or other special construction.

Likewise, when one of our plants has a good airfield adjacent to it, we are reluctant to see the investment in runways lost for lack of minimum maintenance. A lease arrangement containing prohibitions against permanent structural alterations which would delay or prevent conversion to aircraft production—plus some provision for prompt availability of the facility in an emergency—would satisfy the primary needs of the Army Air Forces.

"Only as a last resort, in our opinion, should plants be retained in idleness. Our first preference, obviously, is to have them partially operated by aircraft companies. Our second preference would be to have the facilities partially utilized by other types of manufacturing companies. If no operators can be found, however, we must be prepared to maintain idle plants so that we can be adequately prepared for a rapid expansion of aircraft production in an emergency.

"There are almost endless combinations of operation and standby. For example, an aircraft company or other enterprise might occupy one-quarter of a plant and have no use for the adjacent air field. The Army Air Forces might retain the remaining three-quarters of the plant and the air field as standby, possibly making a maintenance contract with the resident

'Little Rainbow' at Northrop

Returned war veterans building Black Widow P-61 night fighters at the Northrop Aircraft plant in Hawthorne, Calif. have organized what they call the "Little Rainbow Division."

Numbering about 300 men and women who have been discharged from military service, they wear red, white and blue badges stamped with the branch of service and war theater in which the wearer served, attached to the regular company identification discs.

Gage Irving, Northrop vice president, initiated the project to distinguish service men and women who have returned to the plant.

manager to maintain the entire structure at minimum cost. If, at a later date, the company found a need for additional space it could be readily made available and in the meantime, storage needs of the Army Air Forces would be satisfied and space would be provided for the preservation of general purpose machine tools with which the plant or other aircraft plants could be activated in an emergency."

Eureka Making P-80 Motors

Eureka Vacuum Cleaner Co. announces that it has begun production of electric control motors for the P-80 Shooting Star. The motors will be used to operate landing gear, wing and tail flaps.

Radar Adaptation?

A new modification of the P-38 Lightning known as the Pathfinder has been announced by Lockheed Aircraft Corp. It is designed to serve as a lead plane to pin point targets through fog, darkness and bad weather. While the details of the equipment carried cannot be released for security reasons, it is probably a radar adaptation.

PESCO Making Pumps for Jets

Pesco Products Division is now manufacturing fuel pumps, booster pumps and lubricating and hydraulic pumps for gas turbines and jet propelled aircraft. C. S. Davis, president of Borg-Warner Corp., disclosed today. The fuel pumps are of the gear type, pressure loaded for greater efficiency, and special adaptations have been made to cope with severe operating conditions.

Hughes to Build Radio Units

Hughes Aircraft Co. has been awarded a contract for a limited number of Navy radio units, according to announcement by C. W. Perelle, vice president and general manager.

Lockheed Completes B-17 Contract

Lockheed Aircraft Corporation's B-17 contract was completed last week. Lockheed started manufacturing the "Flying Fortress" with the B-17F under license from Boeing, the first ship coming off the line on June 16, 1945. In the three years of the contract, the company completed 2,750 of the four-engined bombers.

2,400 Physically Handicapped at Wright

More than 2,400 physically handicapped persons have been placed in vital war jobs in the New Jersey plants of Wright Aeronautical Corp. during the past 15 months, through the operation of a placement guidance system. The handicapped include large numbers of World War II veterans released from the armed forces on medical discharges.

WHITING MODEL E6 ENGINE STAND



The Whiting Model E6 Engine Assembly Stand has been engineered to provide a modern, time-saving means of assembling and servicing large radial aircraft engines. It can be used by manufacturers, in assembly lines, and for maintenance operations.

The Whiting Engine Stand permits rotation of the work about two axes, provides maximum accessibility to the engine. Heavy, welded, tubular construction supports bed

plate and enclosed worm gear mechanism. Heavy interchangeable adapter plates available for R2600, R2800, and for R3350 type engines revolve on the bed plate.

Main Office and Plant: 15647 Lathrop Ave., Harvey, Ill. Western Office: 1151 S. Broadway, Los Angeles 15, Calif. Canadian Subsidiary: Whiting Corporation (Canada), Ltd., Toronto, Ontario. Branch Offices in New York, Chicago, Buffalo, Birmingham, Pittsburgh, Detroit, Cincinnati, St. Louis, and Washington, D. C.

WHITING CORPORATION



Aviation
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\$626,000,000 IN WAR BUSINESS

51.7% FOR WAGES \$323,640,000	2.16% FOR DIVIDENDS \$13,520,000
34.32% TO SUPPLIERS \$214,850,000	1.34% FOR DEPRECIATION \$8,390,000
8.83% FOR TAXES \$55,650,000	.80% FOR RECONVERSION \$5,500,000
.71% LEFT IN BUSINESS \$4,450,000	

Briggs has just completed \$626,000,000 worth of war business—1941 through May 31, 1945—consisting principally of large aircraft assemblies, heavy bomber turrets and heavy and medium tank hulls. Its employment rose from 23,000 to 36,565 in the same period, and it added almost a million square feet of floor space to its manufacturing operations. Still on its books and in production are many more war orders.

Changes in War Requirements Free Space for Peacetime Work

Now, however, due to changes in war requirements, facilities devoted to war work have been decreased about 20%, thus permitting the Company to continue to be able to meet its war contracts, and at the same time to begin to prepare for peacetime body manufacturing.

New Foundry Established In Cleveland

The reduction in war work also permits Briggs to make post-war plans in other fields. For some time the Company has been experimenting with plaster molds. Beginning with April of last year, it put into operation on war work a large new foundry in Cleveland, Ohio, using plaster molds exclusively and licensed under what is known as the "Capaco Castings Process." This will soon be available for making intricate and fine castings for peacetime manufacturing.

Plans Laid for Postwar Plumbing Ware Market

Briggs is also planning to re-enter the plumbing ware market on a large scale. On September 30, 1944 the John Douglas Com-

pany of Cincinnati, Ohio, was purchased—one of the country's oldest independent manufacturers of plumbing ware and plumbing fixtures. In securing this Company, Briggs has added enough plumbing ware facilities to what it already has so that it will be able, in the postwar market, to offer a complete line of plumbing ware for practically all purposes.

1944 Profits After Taxes Were \$5,307,161.10

Briggs' profits after taxes in 1944 and after provision for renegotiation of war contracts, costs of plant reconversion, and other costs arising from the war, were \$5,307,161.10, as compared with \$5,239,350.74 in 1943.

The consolidated financial position of the Company and its domestic subsidiaries on December 31, 1944 showed current assets of \$82,647,409.64 and current liabilities of \$54,303,994.08, as compared with current assets of \$99,657,442.40 and current liabilities of \$73,985,660.70 in 1943.

The Company paid a \$2.00 dividend per share of stock in 1944, the same as in 1942 and 1943.

To Spend \$10,000,000 On Reconversion

Briggs' future plans call for the expenditure of approximately \$10,000,000 for reconversion, re-equipping and new machinery. However, the Company believes that its principal job must continue to be production for war until final victory has been achieved in the Pacific. Until that time, the needs of the Armed Forces will always come first.

BRIGGS MANUFACTURING COMPANY—DETROIT 14, MICHIGAN

IN WARTIME:

BODIES FOR BOMBERS, FIGHTERS,
TANKS AND AMBULANCES, AND
BOMBER TURRETS.

IN PEACETIME:

BODIES FOR PASSENGER CARS AND
TRUCKS, PLUMBING WARE, AND NON-
FERROUS CASTINGS.

General Tire Distribution Plan

General Tire & Rubber Co. announced today that it is perfecting a distribution plan by which it will serve every airport in the nation through aviation distributors located at strategic points throughout the country. Although particular emphasis will be placed on aircraft tires, many other products will be made by the company for civilian aviators. Display stands have been designed for tires and other accessories, and other sales aids will include identification signs, interior wall banners, special stationery and advertising suggestions.

Ed-Lar, Inc. New Name

Ed-Lar, Inc. has been selected as the new postwar name for General Aircraft Corp., according to an announcement by Ed S. Gremse, board chairman and president, in the "Skyfarer", a company house organ. The announcement stressed that present contracts will be completed under the name of General Aircraft Corp., but that a new corporation carrying the new name will be set up and plans made for gradually swinging into the fabrication of postwar products. For the present and through the transition period all personnel unless specifically selected for and assigned to Ed-Lar, Inc. activities will continue to be GAC employees.

B-29 Modification at Convair

Modification of an undisclosed number of B-29 Superfortresses is to begin shortly at the Tucson Division of Consolidated Vultee Aircraft Corp. Army and Convair officials had previously announced that work at the Convair Tucson Modification Center would cease early in August.

Data on Tire Life Expectancy

Data on the life expectancy of aircraft tires under given conditions is now being prepared by tire manufacturers for discussion with landing gear specialists of the aircraft manufacturers as a result of a recent joint conference of the Ground Loads Subcommittee, Airworthiness Requirements Committee, Aircraft Industries Association of America, and the Airplane Tire Standards Committee, of the Tire and Rim Association.

B-17 Production Halted

Douglas Aircraft Co. has received official notification from the Army Air Forces that its production of B-17 bombers at Long Beach is to be halted immediately. The announcement was made following a meeting of representatives of the Air Technical Service Command, War Production Board, War Manpower Commission, Douglas management and the labor unions involved. Termination of contracts for the "Flying Fortress" will result in the release of 3,000 employees.

New Fairchild Contract

Fairchild Aircraft Division has received a new contract from the Glenn L. Martin Co. calling for continued production of PBM outer wing panels until early in 1946.

Army Places Order for C-97s

The army has signed a contract for Boeing C-97 transports with the Boeing Aircraft Co. Work on the new ships will be started in the immediate future at the company's

headquarters Plant No. 2 in Seattle. While the quantity was not disclosed, it was revealed that three different models are involved. The first will be almost identical to the three experimental ships already delivered to the Army, and will be combination troop and cargo carriers. The second model will be equipped with more powerful engines and other design advancements, and will also be fitted as troop and cargo carriers. The third type, limited to one airplane, will be similar to the second model but fitted without transport type seats for

Army transport use. Aircraft to be produced under the new contract will be designated YC-97s.

20,000 in Martin Plan

More than 6,000 additional employees of the Glenn L. Martin Co. became eligible to participate in benefits of the company's pension plan on July 1. This brings the total of employees now participating in the plan to an excess of 20,000.

10,000th P-51 Completed at Inglewood

The 10,000th California-built P-51 Mustang—first land-based fighter plane to raid Tokyo—has been completed at North American Aviation's Inglewood plant.

P-38 Sets Altitude Record

A new unofficial American altitude record of 44,940 feet was set by test pilot Joe Towle in a two-seated Lockheed P-38 Lightning. Lockheed Aircraft Corp. disclosed.

Manufacturing Personnel



Doe

Vanderlipp

Lee

W. J. Sommers, Buffalo, has been appointed distributor for western New York state and northwestern Pennsylvania by the Briggs Clarifier Co. Thomas B. Doe, Jr. has been appointed manager of the aircraft equipment sales division of Vickers, Inc.

Walter Spivak, previously chief engineer of the Kansas City division of North American Aviation, has been named chief engineer of the company's Texas division. R. C. Bumb will take over responsibility for experimental projects under Spivak with the title of assistant division engineer, while John Babcock, formerly general supervisor of public relations, has been appointed assistant to the Texas division manager, succeeding Andy DeShong who is returning to the Dallas Chamber of Commerce.

Nathan F. Vanderlipp, previously general manager of the Buffalo Plant of Curtiss-Wright's Airplane Division, is supervising all engineering operations at Columbus, Buffalo and Kenmore. Curtiss-Wright also announces that John J. Lee, general manager of the Kenmore plant, becomes general manager of both Kenmore and Buffalo plants. George A. Page, Jr., Airplane Division director of engineering, will concentrate on refinement of the CW-20E and development of commercial aircraft.

A. C. Galbraith, manager of industrial relations for Douglas Aircraft Co. during the past two years, has resigned, and Fred C. Fischer, assistant to Galbraith, will take over the manager's position; also advanced to a new and companion post as public relations manager is Don Black, formerly in charge of the company's news bureau.

John A. Ruthven, former West Coast manager of Cleveland Pneumatic Tool Co., has been appointed manager of Aircraft Tools Co., Los Angeles, to handle sales and distribution. Harold Balliett, former assistant production control manager of the parent company, has been placed in charge of the South Central area for the new subsidiary with offices in Wichita and Dallas.

G. A. Hyland has been appointed sales manager of the new Westinghouse Aviation Gas Turbine Division, South Philadelphia, Pa. William A. Mechenney has been named manager of the Contract Department of the Division.

J. F. Campbell has been appointed chief de-



Sagert

Anderson

Edquist

velopment engineer for the Weatherhead Co., and R. W. Phillips has become laboratory director.

Betty Lou Taylor has been appointed traffic representative for PCA in New York. Leon W. Husby of Detroit, has been appointed a member of the Grand Rapids traffic staff of PCA. He was formerly in operations work in Dayton, with TWA.

Harry E. Mylth, vice president and general manager of Goodyear Aircraft Corp., completed 30 years of service with the Goodyear organization, and at a luncheon was presented with a 30-year service pin.

Gunner Edquist has been named vice-president and assistant to the president of Pacific Air motive Corp., Glendale, Calif.

Harold F. Schwades, formerly division manager of North American Aviation at Dallas, has been named director of manufacturing for Menasco Manufacturing Co.

L. T. Dalecke, assistant director of Fisher Body's Aircraft Section and former resident manager of its Cleveland bomber plant, has been appointed general factory manager of Fisher Body assembly plants in Detroit. H. D. Burnside, general factory manager of Fisher Body's B-25 and B-17 bomber programs, succeeds Dalecke as assistant director of the aircraft section.

O. E. Eval, director of aircraft and marine instrument research for the Sperry Gyroscope Co., and P. Halpert, flight control research engineer, have been awarded the National Prize as co-authors for the best paper in the field of engineering practice by the American Institute of Electrical Engineers.

Garrard Mountjoy, who has been in charge of research and development work in the Radio Division of Lear, Inc., has been advanced to take charge of all research and development work in the New York laboratories.

H. T. Sagert has been appointed chief of aircraft radio customers service for Lear, Incorporated, with headquarters in Grand Rapids, Michigan.

Jack Anderson, formerly with Douglas Aircraft, has been named public relations representative for Curtiss-Wright Corp., on the west coast.

Curtiss-Wright Net Income 14 1/3 Million in '44

Shipments During Year Totaled \$1,716,935,176

CURTISS-WRIGHT CORP. shipments of aircraft, engines and propellers during 1944 totaled \$1,716,935,176. G. W. Vaughan, president, announced last tonight as the corporation prepared to file its 1944 report with the Securities and Exchange Commission.

Curtiss-Wright's 1944 shipments were 32.5% higher than in 1943; exceeded the dollar volume output of any other aircraft company, and marked a new all-time high for the industry, he said.

The Curtiss-Wright total represents slightly more than 10% of the dollar output of the country's entire aircraft industry in 1944, according to estimates obtained from the Aircraft Industries Association of America, Inc.

Consolidated net income for the corporation for 1944 was \$14,331,062, after taxes and deductions for postwar reserve but before renegotiation—a profit of approximately eight-tenths of 1% of net sales. It is believed that the net income figure will not be changed if the principles of renegotiation applied for 1944 are on a basis consistent with those of the preceding year. Net income after all charges in 1943 was \$12,883,347, about 1% profit on net sales.

Curtiss-Wright's provision for federal taxes for 1944 amounted to 88 million dollars. This sum eventually will be reduced by postwar refund of \$8,520,000 of excess profits tax payment. Vaughan also revealed that the corporation paid out approximately 552 million dollars in wages and salaries in 1944 to an average of 174,000 employees. As of December, 1944 the corporation had approximately 102,000 stockholders with average holdings of 84 shares each.

Contract Termination Rate Double That of Spending

Robert H. Hinckley, director of the Office of Contract Settlement, reported at a recent meeting of Southern California industrialists, that the war contract termination rate is now about double the rate of new spending for materiel.

Other speakers at the meeting, sponsored by the Los Angeles Chamber of Commerce, were Rear Adm. H. L. Merring, Office of Procurement and Materiel, who disclosed that "termination agreements are now in effect with firms representing 90% of the steel industry, in preparation for VJ-Day," Brig. Gen. David S. Hauseman, director of Headquarters Readjustment Division, Army Service Forces; and Brig. Gen. Edwin Rawlings, chief, Readjustment Division, Air Technical Service Command.

Gen. Hauseman said that pre-termination is as necessary as was planning for war production. Some of the problems industry must meet, he declared, are the storage of surplus raw material, the arrangement of termination loans and

exact preparation of accounting records.

Aircraft production and cutbacks were covered by Gen. Rawlings, who pointed out that expansion in this field was so rapid in the face of inadequate financing and lack of initial experience that its reconversion data are even more complicated than in other lines.

Beech, Cessna Discontinue Talks Regarding Merger

Officers of Beech Aircraft Corp., and Cessna Aircraft Co., announced jointly on July 11 that negotiations relative to the proposed merger of the two companies, disclosed June 17, have been discontinued.

The statement said further negotiations had been dropped because of unexpected complications in the war production operations of the companies which made the proposed merger impractical at this time.

Officials stated that while no further moves toward a merger would be attempted now, both companies will continue as before, to cooperate fully with each other in the war program and render each other assistance in conversion to peacetime operation. During the recent period of negotiations, several mutual programs of facilities utilization were arranged and these will continue on a sub-contract basis.

Installment Plan Used In RFC Surplus Sales

In a move to make it easier to buy surplus transport aircraft, the Reconstruction Finance Corp. announces that planes of this type now can be purchased on the installment plan.

The installment method of purchase will apply to all Class B (transport) planes having a gross weight of 5,000 pounds and over. This includes Douglas transports, Lockheed Lodestars, Cessnas, and all other transports of this weight class. This adds a third method to those by which transport planes may be obtained. In addition to the deferred payment plan, aircraft of this type can be leased, or purchased outright.

Under the plan purchasers will be required to make a cash payment of 15% of the purchase price plus the cost of insurance, which will amount to approximately 7 1/2%. The balance will be secured by a chattel mortgage payable in 36 equal monthly installments. Four per cent interest will be charged on the unpaid balance.

The new plan is designed to encourage the establishment of new aviation enterprises in addition to making it easier for private purchasers to obtain these aircraft. While some planes of the transport type are subject to allocation by the Surplus Property Board to airlines and war industries, the RFC has a considerable number of Lockheed Lodestars and Cessnas which can be purchased by individuals.

Columbia Aircraft Buys Palmer Brothers' Plant

Columbia Aircraft Products, Inc., Somerville, N. J., has purchased the plant of Palmer Bros. Engines, Inc., Cos Cob, Conn., according to Carl A. Hatheway, president of the latter firm. The Palmer Bros. plant will be operated as a Columbia subsidiary, and will continue the manufacture of marine engines for the government. All Palmer Bros. personnel will be retained.

Menasco Buys Malabar For Postwar Production

Menasco Manufacturing Co. announces the purchase of Malabar Manufacturing Co., producer of hydraulic jacks for aviation, railroads and automobiles, for approximately \$425,000 cash. It will be operated as the Malabar division of Menasco, with Howard Hutchens continuing as manager. E. P. Grime, an inventor and designer, who organized Malabar in 1935, has signed a three-year contract to remain with Menasco as chief consulting engineer on hydraulic jacks.

Addition of the Malabar line to the Menasco list of products gives the Burbank company a new line of war and postwar products. It is part of the expansion program set in motion by Menasco to balance war production curtailments with durable goods manufacturing for peacetime industry.

Solar Aircraft Purchases Hirsch Casting Division

Solar Aircraft Co., San Diego, announces the purchase of the precision casting division of B. F. Hirsch, Inc., New York. It will be operated on a greatly expanded scale as a Solar subsidiary to be known as Solar Precision Castings, Inc., and headed by Edmund T. Price, Solar president, as president, and B. L. Levinson, previously vice president and general manager for B. F. Hirsch, as vice president and general manager.

Radioplane to Expand

Plans for expanded activities have been approved by the stockholders of Radioplane Co., Van Nuys, Calif., the original designer and principal builder of a special type of aircraft for the Army and Navy. At the same time it was announced that John G. Lee, president of the Menasco Manufacturing Co., has been elected a director of Radioplane, that the company has arranged with Menasco for certain types of engine production, and that Radioplane has purchased the Righter Manufacturing Co., of Burbank, Calif.

Jacobs Deliveries Total 52 Million

The Jacobs Aircraft Engine Co. delivered \$52,194,965 worth of aircraft engines and other products for war purposes in 1944, and undertook additional production of the Navy's 5-inch rocket motors now being effectively used in both the European and Pacific wars. J. A. Harris, 3rd, chairman of the board, reports.

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Over-the-Counter Securities

(Courtesy Merrill, Lynch, Pierce, Fenner and Beane)

	July 6		July 13		July 20	
	Bid	Ask	Bid	Ask	Bid	Ask
AIRLINES						
All American Aviation	11	11½	10½	11½	10½	10½
American Airlines pfd.	called	1/15 at 100				
American Export Airlines	75	79	66	71	62	66
Braniff	24½		23½		23½	sale
Chicago & Southern common	20½	21½	20½	21	19½	20½
Chicago & Southern warrants	12½	13½	12½	13	11½	12½
Continental Airlines	17	18	16½	17½	16	17
Delta Air	36½	38	36½	37½	35½	36
Inland Airways	6	7	6	6½	5½	6½
Mid-Continent	14½	15½	14½	15	13½	14½
National Airlines	25		25½		24½	sale
Northeast Airlines	16½		16½		40	sale
MANUFACTURERS						
Aerona	5½	5½	5½	5½	5	5½
Air Associates	12		12		11½	12½
Aircraft & Diesel	1½	2½	1½	2	1½	2
Aireon Mfg.	7½		9½		9½	sale
Airplane & Marine	5½	5½	6	6½	7	7½
Airplane Mfg. & Supply	4½	5	4½	4½	4½	4½
Central Airports	1½		1½		1½	
Columbia Aircraft	½	1	½	1	½	1
Continental Aviation	2½	3½	3	3½	2½	3½
Delaware Aircraft pfd.					No preferred	
General Aviation Equipment	2	2½	2½	2½	2	2½
Globe Aircraft	3½	4½	4½	4½	3½	4½
Harlow Aircraft	40c	60c	50c	60c	40c	60c
Harvill Corp. common	2½	2½	2½	2½	2½	2½
Interstate Aircraft & Engine	10½	11½	10½	11½	10½	11½
Jacobs Aircraft	6	6½			5½ sale	Merged into Republic Industries Inc. July 17, 1940
Kellett Aircraft	2½	3½	2½	3½	2½	3½
Kinner Motors	1.30	1.45	1.30	1.45	1½	1½
Liberty Aircraft	12½	13½	13	13½	12½	13½
Luscombe	1½	2½	2	2½	1½	2½
Menasco Mfg.	2½	2½	2½	3	2½	3
Northrop Aircraft common	8½		8½		7½	7½
Piper Aircraft common	5½	5½	5½	6	5½	5½
Piper Aircraft pfd.	final liquidation of 76c at Farmers National Bank					
Rohr Aircraft	11½	11½	11	11½	11½	18
Std. Aircraft Prods.	85c	75c	70c	80c	70c	80c
Taylorcraft common	7½	3½	3½	3½	3½	4
Taylorcraft pfd.			to be called at 11			
Timm	1.20	1.35	1½	1½	1.10	1.25
United Aircraft Prods. pfd.	20½	21½	20½	21	20	21

Incorporations

PHILADELPHIA AVIATION CORP., 3800 Crawford Street, Philadelphia. Capitalized at \$101,000; incorporated by Guy Miller, Ambler; L. Eric Jones and Horace M. Barbo, Philadelphia, to buy, sell, service airplanes, operate hangars and give flying instructions.

GLOBE AIRCRAFT SPECIALTIES, INC., Queens, aircraft and parts; Hawkins, Delafield & Longfellow, 67 Wall St., N. Y. C.; \$25,000.

U. S. AERONAUTICAL CORP., New Britain, Conn.; shares subscribed for 30 com., on which \$500 cash and \$4,500 in property has been paid. Pres. and treas., Francis H. Dobrowolski, 1 share; vice-pres., Wladyslaw Waszkiewicz, 31 shares; sec., Janet Dobrowolski, 18 shares, all of New Britain. Directors are officers.

HURD AVIATION SERVICE, INC., Monroe Airport, Monroe; shares subscribed for 30 com., on which \$5,000 in property has been paid. Pres. and treas., Benjamin S. Hurd, 47 shares; vice-pres. and sec., Ruth O. Hurd, 1 share, both of Monroe. Directors are officers, and Joseph Yowell, Fairfield, 1 share. Stockholder: Allan F. Wheeler, Easton, 1 share.

PCA Dividend

The Board of Directors of PCA (Pennsylvania-Central Airlines) have voted an initial dividend of 25 cents per share on all outstanding common stock of the corporation, payable on August 8th to stockholders of record on July 25th.

Classified

WANTED: SALESMAN. (1) Should be a pilot with real seaplane experience. (2) Should have had a sound business background preferably in aviation. (3) Should have "earned his wings" as a salesman. (4) Should be about 35, of high type, with past record of accomplishments that warrant being given a real opportunity with a well established company. Location East. Salary basis. Write Pilot, c/o Alfred Fischer Advertising, 270 Broadway, New York 7, N. Y.

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WATCHES WANTED. Broken or usable, all kinds, even Ingraham, highest prices paid for jewelry, rings, spectacles, alarm clocks, razor, cigarette lighters, gold teeth, etc. Cash mailed promptly. Low's Holland Bldg., St. Louis 1, Mo.